Ministry of Environment, Lands and Parks
Ministry of Forests

RESOURCE MANAGEMENT PLAN

FOR THE

KOOTENAY BOUNDARY REGION

2000 - 2004

BRITISH COLUMBIA

File: 22175-01

October 8, 1999

Rob Gay, Regional Director
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Kootenay-Boundary Region
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Dear Rob Gay:

The multi-year services agreement between Forest Renewal BC (FRBC) and the Ministries of Forests (MOF) and Environment, Lands and Parks (MELP) required the establishment of resource management plans (RMP). While both ministries have individually undertaken planning activities in the past this RMP was developed in a collaborative manner. We are pleased to submit the Kootenay-Boundary Resource Management Plan for your consideration and guidance.

The ministries are mandated by legislation to undertake planning functions related to the management of Crown forest land. As a result of our stewardship mandate the RMP incorporates a full range of MoF and MELP forest resource management priorities, including those eligible for FRBC funding.

The RMP, as per last year, only addresses priorities and makes recommendations to FRBC within strategic investment areas and not between. The plan has been prepared based upon scientific/biological and/or physical needs of the forested land base regardless of potential funding source. The plan is a reflection of a co-operative effort between the ministries and major stakeholders and was guided by multi disciplinary steering committees.

We would strongly suggest that once the outcome of the November 1999 FRBC board meeting is known that a meeting between your staff and members of MoF, MELP and industry convene to discuss the implementation process to follow. This meeting would also be an opportune time to commence discussions on how to improve upon the RMP development process and plan for the 2001/2002 fiscal.

If you have any specific questions, please contact either Bernie Peschke, Forest Sector Initiatives Officer at MoF 354-6299 or Kathy Eichenberger, Planning and Assessment at MELP 354-6349.

105-05792/

Yours truly,

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BP/KE/lp

Attachment

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1.0 INTRODUCTION

The Ministry of Forests (MoF) and Ministry of Environment, Lands and Parks (MELP) are mandated by legislation to undertake planning functions related to the management of Crown forest land. The executives of both ministries have directed ministry staff to implement resource management planning to identify forest resource management needs and priorities.
As part of the Services Agreement with Forest Renewal BC (FRBC), MoF and MELP will "recommend conservation and stewardship investment opportunities in support of Forest Renewal's Strategic Objectives". These recommended opportunities are a product of the ministry Resource Management Plan (RMP).

2.0 PURPOSE

The purpose of the RMP is to:

- Identify MoF and MELP forest management resource objectives and priorities;
- Recommend investment opportunities in support of FRBC strategic objectives;
- Identify funding requirements for ministries' objectives and resource priorities not eligible for FRBC funding.

The RMP is a compendium of all resource management objectives and priorities, determined by the MoF, MELP , forest licensees, TFL holders and other stakeholders that provide the basis for funding agency investment decisions. The ministry RMP is directed at linking resource management objectives from higher level planning to "on the ground" accomplishments. The RMP recommendations are anticipated to form the core component of the FRBC Forest and Environment Investment Plan (FEIP). The FEIP is a component of FRBC's overall Regional Investment Plan (RIP) which will be submitted to the Forest Renewal Board of Directors in November 1999 for approval. FRBC will then proceed to establish which proponents will deliver the approved priority projects, and set multi-year and annual investment and employment allocations.

3.0 PROCESS AND PROCEDURES

The RMP development was lead by MoF/MELP in cooperation with licensees and other directly affected stakeholders. For the FRBC strategic objectives of Sustainable Harvest (SH), Enhancing Environmental Values (EEV) and Strengthening Sustainable Forest Management (SSFM) steering committees were established to guide the ministries in the RMP development and provide feedback and direction to FRBC. The FRBC eligible activity priorities, ranking and final recommendations were based upon the FRBC strategic objectives and their key targets and performance measures.
The resource planning for SH was conducted at the Timber Supply Area (TSA) and Tree Farm License (TFL) management unit level, whereas, the EEV and SSFM planning was conducted at the FRBC regional level.
In addition, at the FRBC regional level MoF, MELP and FRBC have localized guidelines or "ground rules" regarding funding targets and performance measures. These were established to

provide clarity for the ministries and steering committees, regarding the RMP development and its recommendations and may be found in Appendix 1.
Non FRBC eligible activities have also been collated at the regional level to identify additional priority investment opportunities and critical works that need to be carried out in 2000/01.

4.0 RESOURCE AND INVESTMENT PRINCIPLES

Planning for ministries program activities and FRBC land based strategic objectives are consistent with the purposes and functions of the MoF. These include:

- encourage maximum productivity of the forest and range resources in BC;
- manage, protect and conserve the forest and range resources of the government, having regard to the immediate and long term economic and social benefits they may confer on BC;
- plan the use of forest and range resources of the government, so that the production of timber and forage, the harvesting of timber, the grazing of livestock and resource values are co-ordinated and integrated, in consultation and cooperation with other ministries and agencies of the government and with the private sector;
- encourage a vigorous, efficient and world competitive timber processing industry in BC;
- assert the financial interest of the government in its forest and range resources in systematic and equitable manner.

Planning was also consistent with the purposes and functions of the Ministry of Environment Act. These include:

- to encourage and maintain an optimum quality environment through specific objectives for the management and protection of land, water, air and living resources of BC;
- to undertake inventories and to plan for and assist in planning , as required, for the effective management, protection and conservation of all water, land, air plant life and animal life;
- to manage, protect and conserve all water, land, air, plant life and animal life, having regard to the economic and social benefits they may confer on BC.

In addition and/or more specifically, resource management plan investment recommendations are:

- consistent with present legislation, policies and the Kootenay Boundary Land Use Plan;
- address continuing program commitments and links to other plans and agreements;
- maintain current and reliable inventories and other components of the corporate data base which are the basis for land based investment decisions;
- directed towards those conditions, stands and treatments which are cost effective and minimize risk;
- ensure timber supply implications are considered and maximized without detriment to other resource values;
- consider non-timber resource values and stakeholders.

FRBC investment principles have been established to guide ministry planning within their Environment and Land and Resources investment areas. These include:

- Forest Renewal's highest priority for distribution of investment funds is allocation to business areas, programs and activities based on the potential contribution toward achieving Corporate Strategic Objectives at reasonable cost.
- The proportion of total funding flowing to investments managed through partnership arrangements is to be maintained at current levels.
- The RMP and FEIP planning processes must be transparent.
- Planning process outputs will be determined as program level investment strategies.
- The MoF and MELP will ensure that individual land-based investments can be explained and defended in terms of their potential for return on investment and value-for-dollar.
- The total annual employment created through investments is expected to be proportional to that created in previous years.

5.0 PROGRAM STRATEGIC OBJECTIVES

FRBC has provided the following strategic objectives and investment strategies by program area:

Sustainable Harvest
Focus on long-term investments in second-growth forests to increase available timber for harvest. Phase out investments to access areas.

Enhance Environmental Values
Continue to focus on restoration and conservation, particularly in high priority fisheries and community and domestic watersheds. Phase out investments in recreation infrastructure (eg. trails).

Strengthen Sustainable Forest Management (Enhance Knowledge)
Shift focus to longer term strategic needs keyed to sustainable forest management. Phase out investments in information for planning forest operations.

In addition, the following regional program strategies attempt to provide a uniform set of objectives intended to guide program investment needs not eligible for FRBC funding. The individual strategies, tactics, and activity investments within the programs should all be directed towards achieving these objectives.

Current Fire and Pest
To ensure that all fire and pest areas are regenerated and tended to achieve free growing stands.

Forest Health Maintenance
To promote or improve the health, vigor and minimize wood supply losses due to insects and disease.

Forest Recreation
To manage forest recreational activities consistent with user demands, safety considerations and site protection while reducing conflicts with other resource uses.

Watershed Restoration (non FRBC priority)
To mitigate existing forest resource impacts and reduce the risk of future potential impacts caused by past forest harvesting practices and roads on non status roads required to provide for public safety, protect private property or other improvements (highways, utilities etc) where the risk is high.

Road and Bridge Maintenance
To provide safe, convenient and unhindered access through the Forest Service Road network for the public, industry and other stakeholders.

Bridge Replacement
To ensure that all Forest Service Road Bridges are replaced consistent with fibre flow requirements, environmental impacts and user safety.

Habitat Enhancement
To identify habitat enhancement projects that can be implemented concurrently with Sustainable Harvest silviculture activities.

6.0 SUSTAINABLE HARVEST

6.1 Introduction

The Sustainable Harvest component of the RMP is based upon individual management unit submissions which were guided by their strategic silviculture investment priorities as well as FRBC performance measures and targets. In recognition of historic allocations conflicting with regional and management unit priorities, FRBC provided guidance to allow for 20% of the historic funding levels to be reallocated based on regional priorities. A Steering Committee comprised of MoF, MELP and industry was formed to establish a process by which final investment recommendations could be made.

6.2 Priority Identification and Ranking

The Sustainable Harvest resource planning was conducted at the TSA and TFL level between November 1998 and August 1999. Strategic silviculture planning workshops were held for each of the Nelson Forest Regions TSAs in addition to TFL 23. Funding shortages did not allow the other TFLs to be addressed in time for the RMP development.

The strategic silviculture workshops were based upon the provincial standard originally developed by LP Atherton and Associates and Cortex Consultants Ltd. to identify incremental silviculture priorities. The process used in the Nelson Forest Region expanded the original scope to also include basic silviculture activities (non FRBC eligible) as well wildlife habitat issues with the input from MELP staff. Participation at the workshops included MoF and Licensees with MELP and FRBC staff attending may sessions as well.

TFLs, on which strategic planning workshops were not completed, based their RMP submissions on local knowledge and historical silviculture treatment priorities.

The primary objectives of the two-day workshops were to:

- Identify issues and management constraints that affect wood flow, wood quality and wildlife habitat in a particular management unit.
- Utilize existing Timber Supply Review (TSR) sensitivity analyses, Kootenay Boundary Land Use Plan (KBLUP) guidelines, other analyses (ie. EFMPP in Invermere and IFPA in Arrow) and local knowledge to initially identify the issues and their impacts.
- Identify silviculture activities and regimes , as well as other management activities, to address the issues and constraints
- Identify the relative impacts of the silviculture regimes with respect to short, mid and long-term wood flow, as well as with respect to wood quality and wildlife habitat
- Rank or prioritize the regimes according to their potential to address the issues, potential for treatment success and cost effectiveness
- Identify a maximum potential 5-year incremental silviculture program and budget based on the identified priorities
- Forecast potential jobs that could be created or maintained based on implementing the identified 5-year program

Summary tables showing the priorities, the 5-year programs and potential jobs for each of the management units completed are included as Appendix 4. Individual detailed management reports can be obtained from Ivan Listar, MoF, Nelson Regional Office (354-6269).

The future direction for the Nelson Forest Region, is to complete the analysis on the remaining TFLs, not yet addressed, and conduct detailed analysis and modelling of different levels of silviculture and other management practices on wood flow, wood quality and habitat supply. This detailed analysis would be conducted for each management unit upon completion of their TSR. The analysis would guide the direction of the silviculture program until the next TSR or when major management objective changes occur. This process should also allow for a comparative analysis between management unit priorities.

6.3 RMP Interim Allocation Process

The individual management unit draft RMP submissions, based upon an 80% and 120% of funding level, were reviewed and generally found to conformed with the priorities identified in the strategic planning workshops. Variances resulted from a desire to maintain a balanced program. Summaries of the draft RMPs were submitted to the regional Sustainable Harvest

Steering Committee for their review and consideration in making investment recommendations for 2000/01.

The investment recommendation process used was intended to facilitate the transition from historical funding allocation processes to one based on regional and management unit priorities. The process is considered to be an interim step with review and modifications made as necessary prior to the development of next year's RMP. The following are the principles and process used by the Steering Committee to prepare the RMP investment recommendations.

FRBC Strategic Objective Targets and Principles:

- Increase available timber for future harvest by 1.5M m^3. Priority given to short term benefits.
- Increase the economic value of timber on all enhanced forestry treatment areas by 5-30%. Regional target set by FRBC is 5 %. The basis for achievement of this target is still to be determined.
- 2150 ha added back to the commercial forest base through surveys and planting.
- 6250 ha of previously planted land will be brought to free growing status. (primarily brushing on commenced upon backlog NSR prescriptions)
- The focus of the process is on positive changes for the planning unit as a whole.
- Investment decisions are to be guided by stewardship plans and priorities for each management unit.
- Planned activities must have reasonable cost estimates within regionally relevant cost guidelines.
- The management unit funding ranges should be +/- at 20% of the 1999/00 levels (e.g.: 2000/01 funding to fall within 80-120% range).
- Additional funding investment decisions will be guided by investment principles established by the Steering Committee and achievement of FRBC's strategic investment targets.

Steering Committee Principles and Process:

- Management units will be assured a minimum base funding level of 80% of their historic funding level, as provided by FRBC. This 80% funding commitment is dedicated for investments within the management unit (TSA or TFL). The minimum 80% management unit allocation will be comprised of entrenched costs tied to the management unit plus additional activity funding required to bring the management unit up to the 80% commitment level. The remaining 20% funding is available for investment recommendation by the

Steering Committee to meet any outstanding priority needs to a maximum of 120% for any management unit.

- Reliability of strategic analysis will be a regional consideration in any allocations.
- Treatment priorities should attempt to address the greatest possible multiple benefits.
- From a regional perspective, management units with the highest risk of AAC reductions will be ranked higher for investments.
- The target is generation of new m^3 with treatments having short term impacts rated higher than those affecting the mid term. Similarly mid term impacts rank higher than long term.
- The first priority is to fully fund entrenched costs associated with commenced-upon backlog prescriptions and any multiyear project contractual commitments (eg. a silviculture study spanning 2 years but not to complete spacing which may be curtailed by snow). If entrenched costs exceed the 80% funding limit the Steering Committee will address the additional entrenched cost requirements as its highest priority from the 20% uncommitted funding.
- Funding for planning/surveys/projects to support or maintain existing or proposed 5-year program levels should be ranked as a high priority

Steering Committee Investment Recommendations:

Of the $5,465,005 regional operations allocation, as identified by FRBC, $1,092,232 (20%) is available for priority investment recommendations by the Steering Committee. Based on the above-mentioned targets, guidelines and principles, the Steering Committee recommends the following activities and projects to be funded from the available 20%:

- $265,445 - additional legal backlog not addressed within 80% funding level for Revelstoke TSA and TFL 3.
- $190,597 - additional backlog reforestation surveys not addressed within 80% funding level for Invermere/Golden/Boundary/Cranbrook TSAs and TFL 8
- $113,000 - repression spacing in Invermere TSA
- $129,000 - backlog reforestation rehabilitation in Kootenay Lake TSA
- $25,000 - PROBE plot remeasurements in Kootenay Lake TSA
- $369,190 – remainder of the reallocation to be redistributed to Cranbrook TSA ($99,680), Boundary TSA ($98,570) and TFLs 8 ($31,380),14 ($39,880) and 23 ($99,680) based upon the AAC ratio used to fund the silviculture priorities identified in their original data submissions

The above recommendations were forwarded to the affected management units for incorporation into their final RMP submission which may be found in Appendix 3.

7.0 ENHANCING ENVIRONMENTAL VALUES

7.1 Introduction

FRBC has refocused the Watershed Restoration Program in view of achieving their strategic objective of Enhancing Environmental Values [EEV]. Future investment by FRBC is targeted to restoring and protecting fish habitat and domestic water supplies in priority watersheds which have been damaged or are threatened by pre-Code forest development. All components of watershed restoration in key watersheds, e.g., upslope, riparian, and stream work required to restore or protect fish habitat and water supplies will be integrated in a holistic manner in view of achieving this goal..

The performance measures in relation to the new program vision, goals and strategies are to complete restoration in 20% of the highest priority watersheds in each region which have been damaged or seriously threatened by past forest development activities and to implement effective monitoring and evaluation that focuses on restoration goals of the key watersheds.

In July 1999, an EEV regional steering committee comprised of Industry, FRBC, MoF and MELP was formed to guide the ministries in the development of the RMP. The RMP exercise was conducted primarily at a regional level with input from MoF, MELP, and industry at the district level. RMP planning process followed the EEV RMP the provincial guidelines:" Appendix II - RMP - Guidelines for the Enhancing Environmental Values Component". Other considerations were to:

- identify key watersheds in relation to specific criteria at a regional level;
- utilize existing assessments and knowledge;
- focus on 'at risk' but functioning watersheds;
- focus on watersheds where past forest development is the main problem (i.e., non-forestry land uses are not significant problems);
- focus on watersheds with a good chance of restoration success;
- use higher level plans to guide the selection;
- limit the criteria used to establish watershed priorities.

The intent of the RMP will be not only to guide future FRBC investment, but also to serve as an aid for other agency and community restoration efforts.

7.2 Process

The process consisted of a series of steps as follows:

Step 1: Identification of fish species and or special stocks of concern in each region.
MELP fisheries staff identified fish species and stocks of concerns, focusing primarily on threatened, endangered and vulnerable stocks. Locations of species and stocks of concern were provided along with a rationale for their identification. This information is presented in Appendix 5 in database report "Fish Species/Stocks of Concern in the Kootenay Region".

Step 2: Creation of a base map showing watershed units for the region.
RMP guidelines suggested a workable size of watershed unit for efficient analysis and prioritization would range from 30,000 to 75,000 hectares. This direction was applied by and large for grouping watersheds and/or selecting 3rd and 4th order watershed as "watershed units". An effort was made to group watersheds in a logical and consistent manner based on similarity of geophysical attributes and compatibility of values. Each watershed unit was assigned a GIS tag for easy identification and database manipulation. The delineation of watershed units can be seen on the GIS map in Appendix 5. There is a total of 287 watershed units in this region.

Step 3: Selection of watersheds that are important producers or conservation streams for the identified target species and or stocks and identification of consumptive water supply watersheds.
District MoF and MELP staff provided information on fisheries and consumptive water use for each watershed unit.

Step 4: Ranking by category, (e.g., Very High, High, Medium) the list of domestic watersheds and target fish-bearing watersheds.
A ranking scheme was adopted to prioritize, as a first cut, all watershed units. Fisheries values were ranked from moderate, where no species and stocks of concern were present, to very high -1 where threatened species and stocks were identified and which contributed to a significant fishery. Similarly, consumptive water use was ranked from very high for FPC community watersheds, to low where there was no consumptive use. The full ranking scheme for fish and water use is found in Appendix 5 in database reports "Water Ranking Descriptions" and "Fish Ranking Descriptions".

Step 5: Estimate of the status of impact and potential for restoration for each of the ranked watersheds.
District MoF and MELP staff determined the status of impact of each watershed unit based on the following categories:

Category I - Watersheds that have known impacts from past pre-Code forestry that will potentially benefit from restoration activities
Category II – Watersheds with significant impacts from other land use (or private land development) that will potentially benefit from restoration activities
Category III – Watersheds with minimal or no forestry-related impairment of fish habitat or water quality
Category IV – Watersheds known to be impacted to such an extent that restoration effort is unlikely to be successful
Category V – Watersheds with insufficient data to make a determination
Category VI – Watersheds with significant restoration investment

A preliminary list of all known WRP activities to date in each watershed unit was also entered into the database.

Step 6: Compilation and Analysis of information.
All information compiled from the above 5 steps were entered into the database. The outcome is presented in Appendix 5 "EEV-RMP Mandatory Data Report" District codes were assigned to each watershed unit as follows:
1-Cranbrook; 2-Invermere; 3-Golden; 4-Kootenay Lake; 5-Arrow; 6-Revelstoke; 7-Boundary.

Step 7: Prioritization of Watershed Units.
A prioritization scheme was adopted to segregate into 8 tiers very high and high ranked watershed units, from both a fisheries and water use perspective. The ranking scheme and rationale is presented in Appendix 5 "Tiers for Ranking Watersheds". The highest priority tier contains community watersheds serving large communities with very high fish values, important commerical/recreational fishery and past WRP activities. The lowest tier contains watersheds units ranked high for both water use and/or fish values. It is intended that investment planning use the tiered prioritization in a hierarchical manner, i.e. activities in tier 1 would be considered for funding before those in tier 2, etc.

The results of the application of the tiered prioritization are in Appendix 5 " EEV-RMP Mandatory Data Report (Ranking Tiers).

Step 8: Recommendations.
In order to meet the performance measure identified by FRBC for the Enhancing Environmental Values" strategic objective, 20 % of the highest priority watersheds were recommended as funding priorities. These watersheds were primarily selected within the first few tiers of the prioritization scheme outlined above. 33 watershed units are recommended, which exceeds the 20 % goal by approximately 4 watershed units. The intent was to provide flexibility to FRBC and industry in identifying watersheds which also met their needs, be they social, economic, operational, equitable or others, which may be different than those enunciated in the strategic objective.

The list of recommended watershed units are in Appendix 5 "EEV-RMP Recommended Watersheds.

8.0 STRENGTHEN SUSTAINABLE FOREST MANAGEMENT

8.1 Introduction

In July 1999 a committee was created to develop recommendations for the Strengthening Sustainable Forest Management (SSFM) component of the RMP for the Kootenay-Boundary Region. The committee was comprised of regional staff from the MoF and Environment, Kootenay-Boundary IAMC and FRBC, two representatives from the forest industry, two environmental consultants and a representative from Selkirk College's Forestry Program. A consultant was hired to facilitate the committee discussions and support the government agencies in completing the associated work.

The work of the committee was guided by the *Resource Management Plan Appendix III: Guidelines for the Strengthening Sustainable Forest Management Component - Working Draft.* Additional guidance and clarity on implementation of the RMP's, including the establishment of timelines, was provided by FRBC. However, the intent of the ministries has been to use the RMP process to establish strategic priorities that might be funded through a variety of sources. Therefore, the committee attempted to integrate these two mandates to the extent possible given the short timelines for the planning process.

8.2 Process

The process used to develop the recommendations for the SSFM component of the RMP included:

- identification of potential projects. The ministries developed a list of potential projects, which were then reviewed by the committee and FRBC Multi-Year Agreement holders;
- a coarse level evaluation and ranking of potential projects using criteria developed by, and agreed to, by the agencies and committee as a whole;
- a second and more detailed consideration of top ranked projects by MoF and MELP to more clearly establish corporate priorities.

Identification of Potential Projects

The following principles were used to establish a list of potential projects for consideration by the Steering Committee.

Existing Projects

For the most part, existing project commitments will be honoured. Where projects have multiple phases, in some circumstances support for follow-up phases may be re-evaluated.

Guidelines

As outlined in *Resource Management Plan Appendix III: Guidelines for the Strengthening Sustainable Forest Management Component - Working Draft,* the focus of the Steering Committee has been to develop a Resource Management Plan (RMP) that supports the Timber Supply Review (TSR) process and delivery of the Kootenay-Boundary Land Use Plan Implementation Strategy (KBLUP-IS). Specifically, the committee defined projects that identify and prioritize:

- information gaps;
- requirements for tools and models for applying resource information, and;
- new approaches through experimental management pilots.

As a result, the initial list of potential projects was derived from a review of past TSR processes and the corporate workplan and other delivery work associated with the KBLUP-IS. Given the broad scope of issues addressed through the KBLUP-IS and the intent of both MoF and MELP to use the RMPs as a broad strategic planning exercise, the list of potential projects included some which are not eligible FRBC funding.

Regionally Significant Issues

MELP and MoF staff identified the regionally significant issues that would be used as guidance to identify potential projects. The issues were presented to the Steering Committee for review and comment. The regionally significant issues include:

Timber Managemen:t

- vegetation updates
- growth and yield related information
- AAC/TSR determination factors
- sampling issues
- need for a common platform for managing data.

MoF has identified that there are operational issues, which are not necessarily related to the TSR and KBLUP-IS that are information gaps. These projects have not been included given the mandate of the committee to focus on those that support the TSR and KBLUP-IS.

Environmental Values

MELP identified regionally significant issues on the basis of the three main programs within their ministry: water, fish and wildlife (habitat) as well as specific projects resulting from TSR issues. The main issues include:

Water

- aquatic conservation and air quality strategies
- water quality and quantity monitoring
- locations of water intakes

Fish

- red and blue species
- habitat issues (spawning and distribution)
- some recreation related issues

Wildlife

- habitat (managing old and mature forests)
- certainty around caribou and grizzly bear management
- ungulate winter ranges (identification, classification, ranking and management of)
- red and blue species (distribution and habitat usage)

TSR

- how information is modeled and or used through the TSR processes to ensure it reflects the complex realities of natural systems

There are numerous issues outside of timber and environmental values, which relate to delivery of the KBLUP-IS. The IAMC Program Manager, working with the IAMC Technical Team, assumed the responsibility for identification of such issues and associated projects.

The RMP is regional in scale. Identification of eligible projects considered the regional significance of potential projects. Few projects involve the entire regional land base. Therefore, regional significance was considered in other ways, such as opportunities to apply lessons

learned elsewhere in the region or for linkages between projects occurring elsewhere in the region. As well, a project may have provincial significance or such tremendous significance for one TSA, TFL, Forest District, etc. that it was considered regionally significant.

In an effort to develop an exhaustive list of potential projects, the list was circulated to all Multi-Year Agreement holders following initial review by the Steering Committee. The Multi-Year Agreement holders were asked to add projects to the list, either those underway or proposed in order to ensure their known priority projects were captured in the list and could be evaluated.

8.4 Prioritization of Potential Projects

The goals of the prioritization process included:

- to establish a credible and transparent prioritization process that could be presented to stakeholders and potential funding agencies. It was understood that the timelines for the development of the RMPs would restrict the ability of the agencies and Steering Committee to use the process to its fullest extent, but that the development of such a process would be a good investment for future planning initiatives;
- to seek a balance between using professional judgment, which represents critical experience and knowledge of specific subject areas, with an objective review that seeks to meet regional priorities involving a broad range of resource management issues, and;
- to result in an integrated list of prioritized projects which reflect both the immediate and long term resource management needs in the region.

Coarse Level Evaluation

The initial assessment of potential projects involved the development of evaluation criteria for timber and environmental values as well as "do-ability" factors (see Appendix _____ - Project Evaluation Criteria). However, the committee agreed that not all criteria are of equal value. Therefore, weighting factors were assigned to relevant criteria and a database analysis was used to produce a draft list of ranked projects. Each project that was proposed by MoF or MELP was evaluated with respect to the three evaluation subject areas by government staff within both the ministries. Projects that were put forward by the IAMC Program Manager, which represented the broader issues addressed through the KBLUP-IS, were not ranked as detailed evaluation criteria had not been developed for values other than timber and environment. As a result, the IAMC Program Manager recommended such projects be included in an appendix of the Resource Management Plan document (see Appendix 6).

The committee recognized that not all proposed projects would have a potential impact (positive or negative) to both timber and environmental values. As a result, allowances were made for projects to be evaluated as "neutral" to either timber or environmental values. This reflects the fact that ministry staff considered the merit of individual projects on the basis of whether they would improve the collective knowledge for managing land and resources. While it was assumed that such information would have practical applications, ministry staff attempted to remove bias from the process by refraining from making assumptions as to how the information might change management practices (e.g. whether it might result in guidelines that either increase or decrease pressure on timber availability). The development of such guidelines was

seen as a separate process, with the assumption being that resource management as a whole benefits from improved information.

The database analysis resulted in a ranked list of projects which were identified as significant to both timber and environmental values. However, the majority of projects were deemed to be significant to only one or the other value. These projects were classified into two main categories - high and moderate.

Refinement of Prioritized List of Projects

In reviewing the draft list of prioritized projects, ministry staff expressed general support for the broad categories of high and moderate rankings, with a few minor changes being sought. However, MELP, with support of the committee, identified a need to more closely examine the projects within the high category. The decision was made to develop further categories within that grouping of projects to provide greater clarity as to the regional priorities.

The responsibility for this additional work was assigned to MoF and MELP staff. Industry representatives on the committee made it clear that their mandate was to represent the interests of their individual company. They did not feel they could make any further contribution to a process that was seeking to establish priorities on a regional basis. The committee decided there was insufficient time to consult all Multi-Year Agreement holders on the evaluation process and results, nor was such a consultation exercise likely to produce effective comments for a regional prioritization process. Therefore, MoF and MELP proceeded to more closely evaluate the top ranked projects, using the same criteria that had been developed for the database analysis (Appendix 6) but in more detail. The results of the finalized Prioritization Process may be found in Appendix 7.

8.5 Outstanding Issues

Through the planning process, the committee identified a number of issues they feel need further discussion, including:

- the lack of any funds allocated directly to MoF and MELP that is needed to pursue projects that are beyond the interests of any one Multi-Year Agreement holder. Such projects might include those of a strategic nature; involving a broad geographic area that encompasses the operating areas of numerous companies, and/or having potential downward pressures on available timber for harvesting;
- the need for to clarify the project design phase of implementation, specifically who should be involved and how to ensure the original intent of the projects is effectively met, and;
- the allocation of FRBC funding, both between the three components of the RMP as well as the basis for regional distribution of funds.

In order to meet the FRBC September 30th deadline, the committee has postponed this further discussion until mid-October. At that time, the committee will meet to discuss the outstanding issues and prepare a statement of the committee, including issues, areas of agreement and disagreement and recommendations. The intention is to have the statement accompany the presentation of the RMP to the FRBC Board in November 1999.

8.6 Stakeholder Consultation

In addition to the consultation with Multi-Year Agreement holders which has already taken place and the need for further discussion with the forest industry and other key stakeholders on the outstanding issues outlined in Section 5.0, the committee identified three main topics for discussion with stakeholders that should be pursued through broad consultation:

- past achievements. The committee felt that considerable successes have been achieved through Forest Renewal funding and the current public perspectives do not reflect that;
- stakeholder perspectives on the funding criteria. The committee felt that most stakeholders are primarily interested in the decisions on funding allocation, as opposed to the technical review of the projects, and;
- identification of potential partnerships to implement the projects. Some committee members feel that Forest Renewal should broaden its partnership relationships in the region. Additionally, the Ministries view the RMPs as identifying projects that might be supported by organizations other than Forest Renewal. Therefore, there needs to be discussion with stakeholders and other potential funding organizations regarding opportunities for implementing the projects.

The committee believes a credible stakeholder and public consultation process is required, given the history of consultation in the region. The committee did not believe a credible process could be undertaken by the end of September 1999 as there is insufficient time and the work was still in progress. The committee recognizes there are dangers in conducting consultation after the September 30th Forest Renewal deadline as it may appear decisions has already been made. However, the committee believes that the three main points to be discussed with stakeholders (as indicated above) are viable topics for discussion following the September 30th deadline.

9.0 CURRENT FIRE AND PEST

The strategic objective of the Current Fire and Pest program is:

"To ensure that all fire and pest areas are regenerated and tended to achieve free growing stands."

For areas denuded by fire or pest and where no salvage harvesting has occurred, the district manager has an obligation to reforest. This legal obligation creates a high priority for treatment. Regeneration and free growing time frames on many areas would not be met without carrying out basic silviculture activities, including surveys, site preparation, planting, brushing and maximum density spacing.

10.0 FOREST HEALTH MAINTENANCE

The strategic objective of the Forest Health Maintenance Program is:

"To promote or improve the health, vigor and minimize wood supply losses due to insects and disease."

The following are activity descriptions and tactics required to achieve the above strategic objective:

Forest Health Planning.
Planning with the objective of minimizing pest impacts and maximizing opportunities for pest control is critical to any forest land management activity. No stand treatments or activities should take place before they are evaluated and prioritized. This ensures the proper allocation of financial and natural resources and the maximization of benefit. All high hazard stands should be monitored annually for pest activity and plans should be formulated to deal with pest outbreaks. Plans should be made for the entire land base and updated annually with each overview survey.

Operational Trials and Research
Operational trials and research provide the necessary information to evaluate and improve forest management practices. These activities monitor results of treatments applied to the forest land base and provide input on how to modify or improve practices. Only continuing research will provide us with information on how to improve detection techniques, develop new methods of hazard and risk rating, provide new methods for managing forest health agents and provide managers with new tools for planning and regenerating the forest resource. There must be a constant level of research conducted in the region in order to advance our management techniques and expertise.

Landscape Level Forest Health Monitoring - Annual Aerial Overview Surveys
Without this critical activity, there will be no record of the extent and severity of forest pests and the Chief Forester would not be able to meet obligations under the Forest and Ministry of Forests acts. Many forest health activities are reliant upon the information gathered during this annual aerial overview survey. The entire region should be surveyed annually and complimentary ground based monitoring should also be delivered. The minimum delivery level is as described above, and is dependent upon pest population levels and management goals for the forest land base. The optimal delivery level would be to survey all Crown forest (working forest).

Landscape Level Forest Health Monitoring - Population And Damage Prediction For Defoliating Insects
For defoliators, all high hazard areas should be monitored (pheromone trapping, egg sampling and 3-tree beating surveys) annually. Baseline effort is to sample high hazard stands based upon historic areas of defoliation and results of annual aerial overview surveys. In addition to high hazard stands, stands receiving enhanced silviculture treatments should be monitored on an ongoing basis to minimize potential damage from defoliating insects. Population monitoring should be conducted annually, even in "non-outbreak" years.

Detailed Annual Operational Air Surveys

Detailed air surveying and mapping forms the "backbone" of the district forest health program to which all other forest health operational activities (treatments) and tracking systems are tied. As a result, detailed air surveying is an ongoing operational activity that is to be conducted each year to maximize the effectiveness of a district forest health program. All high priority areas within the districts are surveyed annually since tracking of current and new forest pest populations in these areas is critical. Lower priority areas where forest pest populations appear static, ideally, are also surveyed annually, but may be surveyed up to every two years. Note that in dealing with the complex biology and behaviour of forest pests, low priority areas may become high priority areas unexpectedly, in a short period of time. This underlies the importance of an effective annual operational air survey covering the entire land base.

Hazard And Risk Rating

Hazard and Risk Rating Analysis for Forest Health Factors are predictive tools that provide forest managers with a framework within which they can plan and prioritize their stand management activities. The information provided through these analyses should be incorporated into both Strategic and Operational planning processes so that the impact or potential impact of Forest Health Factors on Management Objectives can be considered. Hazard and risk rating should be done for all major bark beetles, defoliators, terminal weevils and root diseases. This process once done need only be updated on a 5-year interval or as new information is brought forward. These hazard and risk maps are integral to forest planning.

Ground Surveys For Pest Incidence, Including Root Disease Surveys

To determine the incidence and severity of damaging agents and obtain basic stand and site information, and decide on courses of action for pest management. The surveys can also be used to monitor efficacy of treatments to managed stands, and to determine background levels of pest incidence for landscape level planning.

Fall And Burn Treatment For Mountain Pine Beetle

Post-attack fall and burn treatments are conducted to decrease populations of mountain pine beetle (MPB) which are inaccessible or outside of approved cutting permits and will not likely be addressed by harvesting within the next 2 year time frame. These treatments reduce unsalvaged losses by decreasing attack and mortality caused by the mountain pine beetle. All increasing populations of MPB and inaccessible areas where MPB has been detected should be treated to decrease populations. Without these treatments, MPB populations will increase, and large areas of pine will be killed.

Post Attack MSMA For Mountain Pine Beetle Or Lethal Trap Trees Pre-Attack MSMA Treatment For Spruce Beetle

Pre-attack MSMA treatment is conducted to decrease populations of spruce bark beetle (SBB) that are inaccessible or outside of approved cutting permits and will not be addressed by harvesting within the next 2 year time frame. MSMA treatments will reduce unsalvaged losses by decreasing attack and mortality caused by the spruce bark beetle and will contain populations within identified areas, minimizing spread to surrounding high hazard stands.

MSMA treatments are conducted to decrease populations of mountain pine beetle which are inaccessible or outside of approve cutting permits and will not likely be addressed by harvesting within the next 2 year time frame. These treatments reduce unsalvaged losses by decreasing attack and mortality caused by the mountain pine beetle. All increasing populations of MPB and inaccessible areas where MPB has been detected should be treated to decrease populations. Without these treatments, MPB populations will increase, and large areas of pine will be killed.

Trap Trees For Douglas-Fir Beetle And Spruce Beetle Control

Trap trees contain emerging DFB or SB populations and, therefore, reduce the threat of infestation to adjacent, susceptible stands. Trap trees also provide an additional source of fibre supply since they must be removed from the site. Reduction of unsalvaged losses and utilization of the trap trees ensures continued revenue to the Crown. Numbers of trees will fluctuate on a yearly basis depending upon beetle population levels.

Pheromone Deployment For The Control And Monitoring Of Bark Beetles

Pheromones (semiochemicals) restrict the dispersal of bark beetles from stands or areas and can concentrate attacks on specific trees or stands. The overall effect is a reduction of unsalvaged losses by decreasing attack and mortality caused by bark beetles. Reduction of losses will maintain revenue to the Crown. Semiochemicals are used to monitor the timing and duration of bark beetle flight periods. The intent is to maximize control efforts and restrict spread of infestations by using resultant information to restrict movement of infested materials during beetle flight periods. The recommended level of activity delivery is dependent upon current and predicted bark beetle populations. The critical level is that which effectively and efficiently manages a bark beetle epidemic.

11.0 FOREST RECREATION

The strategic objective of the Forest Recreation program is:

"To manage and facilitate public use of Provincial Forest land for a wide spectrum of recreational activities considering both safety and cost effectiveness. "

Approximately 80% of the Province of BC is managed by the MoF. Residents and tourists utilize this land for a wide variety of recreation pursuits which include; viewing from homes and highways, hiking, camping, fishing, water sports, berry picking, hunting and firewood gathering. The MoF manages and facilitates recreation use by way of a recreation program which provides for a wide spectrum of recreation opportunities for a variety of recreation activities.

Strategy - *"To identify and manage the recreation and visual resource"*

Tactics to achieve this include:

- assessing use, demand and value of the recreation resource
- maintaining a recreation and landscape inventory
- ensuring that the recreation and visual resource, are considered in resource management decisions

- establishing visual quality objectives and developing design solutions to meet these objectives
- planning and managing for commercial and non commercial use

Strategy - *"To facilitate public use of Provincial Forest land"*

Tactics to achieve this include:

- informing the public about recreation opportunities
- maintaining, rehabilitating and developing a network of campsites and trails according to regional direction
- enforcing recreation policy, procedures and regulations

Recreation Priorities

Priority	Activity	Description	Quantifiables
1	Recreation Resource Management	• Meeting FPC requirements (e.g. VIA, intra & inter agency referrals, establishing site & trail objectives, participating in district/regional planning initiatives, sec 102/105, etc.) • Updating recreation inventory, including FTAS.	• # Section 105 order • # maps sheets
2	Recreation Facility Maintenance	• Maintenance of managed BCFS sites (cleared, signed, and receiving regular maintenance) • Maintenance of managed BCFS trails (cleared, signed, and receiving regular maintenance) • M & E of rec. facilities • Production of district brochures (region) and local area brochures (district)	• No. of sites • No. of vehicle units • No. of summer trails • Km. of summer trails • No. of winter trails • Km. of winter trails • Name of district brochure • Quantity of district brochures • Name of local area brochures • Quantity of local area brochures
3	Recreation Facility Rehabilitation	• Refurbishment of campsites and trails to meet BCFS standard • Replacement of bridges on of bridges on trails	• No. of sites • No. of vehicle units • No of summer trails • Km. of summer trails • No. of winter trails • Km. of winter trails • Trail name & bridge location
4	Recreation Facility Development	• Development of sites and trails (consistent with higher level plans, plan to be named). • Construction of bridges on trails. • Managing Sec 102/FRBC applications.	• No. of sites • No. of vehicle units • No. of summer trails • Km. of summer trails • No. of winter trails • Km. of winter trails • Trail name & bridge location

Description of Activities

Resource Management Activity:
This activity covers all of the work associated with management of the recreation resource, most of the work is delivered by the RO Recreation, however if there is recreation map sheet updating, there may be costs associated with a recreation inventory contract. The work in this activity covers the following:

- FPC Act related work (Visual Impact Assessments, Sec 102/105, site/trail objectives, strategic and operational planning) and referrals (CBR, FDP's, M & W plans, etc.).
- Updating recreation inventory map sheets including FTAS.

As a footnote for Sec. 105 work, Sec. 105 work for management of the recreation resource (geographic areas which are not sites and trails) would be quantified here, but not Sec 105 closures for specific sites and trails, which would be a maintenance item.

Facility Maintenance Activity:
This activity is where the recreation program spends most of its money. This activity deals with maintaining and managing our recreation infrastructure which consists of campsites, trails and interpretive forest sites as well as providing public information on how to find and use our facilities.

For site maintenance, all maintained sites must meet the definition as per the Policy Manual, they must be signed, contain a toilet, and receive regular maintenance. Site maintenance is defined as being; annual painting and staining, minor repairs, janitorial work, toilet pumping and routine replacement of furniture to maintain facilities to the ministry standard.

For trail maintenance, all maintained trails must meet the policy definition, they must be signed, cleared, and receive regular maintenance. Trail maintenance is defined as being; sign painting and staining, wind falling & brushing and minor tread repairs to maintain the trail to standard.

If there are monitoring and enforcement requirements associated with facility management, this is where it is budgeted for, e.g. costs associated with maintenance of Sec 105 orders on sites or trails, such as the annual closure of Enid Lake for the May 24 weekend, etc.

Facility Rehabilitation Activity:
This activity is where deteriorated facilities are brought up to the program standard. If a district has brought an existing unmanaged trail under management, this is where budgeting occurs for the trails rehabilitation to the BCFS standard prior to it coming under routine maintenance. A campsite being rehabilitated is assumed to meet the definition of a managed site. For trails that are being rehabilitated, the process of assessment, referrals, completed clearance, and works required must be gone through prior to the work commencing.

Campsite rehabilitation is defined as being; site redesign, graveling roads and pads, redefinition of camping pads, furniture replacement and removal / abatement of hazards throughout the campsite.

Trail rehabilitation is defined as being, redefinition of tread, installation of drainage structures, tread relocation, removal / abatement of hazards, bridge replacement, sign installation and wind falling / brushing.

Facility Development Activity:
Development is for provision of future opportunities. For this activity, there must be a link between a process and the need for development. This process should be a higher level plan such a strategic or landscape level plan or a public process that has been completed. Prior to development, the process of obtaining a project number, assessment, referrals, completed clearance, site plan/trail design and establishment of objectives must be gone through.

12.0 WATERSHED RESTORATION (NON FRBC PRIORITY)

The strategic objective of the non FRBC component of the Watershed Restoration program is:

"To mitigate existing forest resource impacts and reduce the risk of future potential impacts caused by past forest harvesting practices and roads on non status roads required to provide for public safety, protect private property or other improvements (eg. highways, utilities, etc) where the risk is high"

FRBC has refocused its investments on restoring high priority watersheds. High priority watersheds are those with high fisheries values, or that provide community water supplies and have a high likelihood of restoration success. There are however, in addition, non status roads within watersheds that pose significant risk to human safety, domestic dwellings, industrial development (eg. Public roads and utilities) that although very high or critical priorities are not eligible for FRBC funding.

13.0 BRIDGE REPLACEMENT

The strategic objective for the Bridge Replacement program is:

"To replace bridges and major culverts on Forest Service Roads where the structures present a significant risk to the surrounding environment, to user safety, or to short term fibre supply."

The need for a Bridge Replacement program with adequate ongoing funding is to address a substantial number of old bridges and culverts that were built on Forest Service Roads with inadequate materials or with an unsatisfactory design life. These structures are deteriorating to the point they cannot safely carry design loads, or they pose a significant risk to the environment or other resource values. These structures, if requiring closure, may significantly impact the economy through reduced access to short term fibre supply.

14.0 ROAD AND BRIDGE MAINTENANCE

The strategic objective for the Bridge Replacement program is

"To provide appropriate access through the Forest Service Road network for the forest industry, the public, other stakeholders."

The Forest Service Road (FSR) network provides the primary vehicular access into all major watersheds within the Nelson Forest Region. The overall objective of the FSR network is to provide vehicular access to permitted industrial forest users, commercial users (ranchers, pipeline companies, railroad maintenance crews, BC Hydro, BC Tel, etc.) and of course the general public. Surface maintenance, culvert replacement, structural maintenance, road deactivation, road upgrades, mass wasting repairs, predictive data bases, easements and right-of-way acquisitions are essential for providing safe, stable, and durable access across these road systems.

Strategy:
"Assess maintenance risks and provide continuing maintenance on Forest Service roads and bridges as indicated through inspections and schedules."

Tactics to achieve this include:

- Periodically inspect the condition of, and the structures on, all FSR consistent with an inspection schedule and recent weather events.
- Continue to maintain a digital inventory of all FS roads and bridges and the database known as the Bridge Register Information Management System (BRIMS).
- Provide routine surface and structural maintenance consistent with inspection results and maintenance schedules.
- Net down the FSR system by deactivating FSR's no longer needed as part of the MOF road infrastructure.
- Upgrade segments of FSR's to meet FPC requirements in sensitive areas.
- Provide emergency maintenance as necessary to ensure safe road conditions on priority road systems.
- Initiate road closures when available finances are insufficient to ensure public safety or environmental integrity.
- Continue to provide snow removal, grading, culvert work, removal of danger trees, vegetation control, ditch cleaning and grading, bridge work and other associated maintenance activities at times of year consistent with environmental need and user safety.
- Develop tools for predicting and preventing maintenance problems. This would include a database on the occurrence of mass wasting, geology, site conditions, weather events and so forth on problem maintenance sites.
- Identify watersheds and road networks that have a higher risk of erosion or maintenance problems and prioritize schedules to meet those anticipated needs.
- Continue to require road maintenance by those users holding a permit for industrial use.

Strategy:
"Acquire right-of-way parcels and easements necessary to ensure that unhindered (free & clear) access exists to Crown lands that lie behind alienated lands."

Tactics to achieve this include:

- Maintain a prioritized list of access problems and stakeholder needs for access to Crown lands that can only be reached through alienated lands.
- Periodically review access needs and road locations to determine if alternate access routes could be developed rather than the purchase or lease of alienated lands.
- Where access to a FSR network requires crossing private land, negotiate access agreements or land purchases on required additions or existing roads without an agreement.
- Conduct right-of-way surveys using BC Land Surveyors to develop the necessary plans needed for property negotiations.
- As agreements are reached and roads constructed, add these to the FSR network.

15.0 HABITAT ENHANCEMENT THROUGH SILVICULTURE

15.1 Purpose

Old growth and mature forest have been harvested and new forests regenerated over vast areas of British Columbia using increasingly intensive management practices. While such practices may speed and increase the amount of wood fiber produced, they tend to limit the diversity of stand development phases and greatly shorten the time between logging disturbances relative to the potential range of natural structures and disturbance regimes. Intensive forest management usually produces stands that are structurally and compositionally homogeneous, resulting in a loss of habitat variability and biodiversity. Fortunately, the same silviculture activities used for fiber production can be modified to create or enhance desired habitat attributes and aid in the preservation of biodiversity.

The Ministry of Environment, Lands & Parks (MELP) strategic objective for the Sustainable Harvest Program is:

"the enhancement and protection of wildlife and fish habitat in second growth forest through planning, monitoring and training."

Planning:

- setting regional land district strategies and priorities for protecting and enhancing environmental values;
- developing landscape unit plans detailing the location, type and extent of silviculture treatments best suited for habitat enhancement projects; and
- developing an information system to aid in the planning and evaluation of habitat management.

Monitoring:

- to assess existing and proposed silviculture treatments relative to stated or desired objectives and results proposed in prescriptions;
- to assess the effectiveness of silviculture treatments in maintaining habitat and ecosystem function and diversity;
- to improve integration of fish, wildlife and water resource values with silviculture planning and implementation;
- to provide a baseline level of habitat and ecosystem information with which to better evaluate silviculture and other resource management objectives;
- to ensure terrestrial and aquatic ecosystems are not exposed to avoidable risks;
- to ensure that silviculture treatments are conducted in compliance with the Forest Practices Code; and
- results of monitoring should be used to refine practices, goals and priorities.

Training:

- develop/refine guidelines for habitat protection and enhancement when conducting silviculture treatments in second growth stands;
- training for licensees, contractors and ministry staff related to managing environmental values and non-timber resources,
- implementation of habitat protection guidelines.

Investment in the habitat enhancement activities discussed in the Sustainable Harvest Resource Management Plan will aid in restoring and maintaining the ecological integrity and environmental sustainability of the forests, and will provide job creation benefits.

15.2 The Process Of Setting Program And Project Priorities

Sustainable Harvest Program:

A review of the strategic documents listed in Table F and discussions with Habitat Protection staff identified the need for the following habitat enhancement projects:

Reduce Ingrowth Effects on Forage and Browse Production:
The fire-maintained grasslands and open forests of the Bunchgrass, Ponderosa Pine and Douglas-fir zones have historically produced large quantities of good quality forage and browse. These areas are prime winter range for deer, elk and sheep, as well as critical spring/fall range for livestock. There is an inverse relationship between understory forage production and the density of the forest canopy: as canopy closure increases through forest ingrowth, forage and browse production decreases (Dodd et al, 1972) having also a loss of forage quality. This also affects additional animal species such as birds, small mammals and reptiles. Red and blue listed species put at risk by forest ingrowth include the long-billed curlew, Columbian Sharptailed Grouse, Lewis' Woodpecker, and the yellow badger (Gayton et al., 1995).
Reduction of ingrowth effects are needed, and can be achieved through a combination of enhanced forest management techniques.

Deer, Elk and Open Forest and Grassland Dependant Species Winter Range

Enhancement:
In several landscape units dominated by second growth, with few widely spaced winter ranges, there is a need to create additional winter ranges by hastening the development of old growth forest attributes for deer, elk and open forest end grassland dependant species.

Deer and Elk Spring Forage Enhancement:
During winters of heavy snowfall, ungulates expend extra energy moving through deep snow, while taking in less energy from forage than normal. By spring, they may be weak and near starvation. Quality spring forage is needed close to winter ranges.

Old Growth Attribute Enhancement:
In heavily harvested landscape units characterized by second growth it is a priority to re-establish old growth attributes on selected sites to meet the requirements of old growth dependant species (e.g., goshawk and cavity nesting birds and mammals).

Riparian Restoration:
Prior to implementation of the Forest Practices Code forests were often clear cut harvested to the edge of waterbodies. In these areas, it is a priority to re-establish forests and habitat conditions similar to those that existed prior to harvest, particularly when conducting Enhanced Forestry Silviculture Projects in adjacent areas.

Appendix 1 provides a description of the desired habitat attributes for each type of habitat enhancement and information on site selection. While all silviculture treatments may affect habitat supply positively in one way or another, only those projects where the primary objective is habitat enhancement and involve treatments incremental to those of fibre production are classified as habitat enhancement.

15.3 Knowledge Gaps And Funding Needs

There are a number of studies and additional activities which are identified for FRBC funding specific to habitat enhancement in second growth stands:

Maintenance and Monitoring of Endangered Ecosystems and Plants:

Identified provincially red and blue listed endangered plants and ecosystems exist within several landscape units within the Kootenay Region. A specific maintenance and monitoring strategy must be developed to ensure linkages to treatment areas and higher level planning enhanced forestry.

Forest Practices Code Compliance and Effectiveness Monitoring:

To determine the degree to which habitat protection measures afforded by the Forest Practices

Code are followed by licencees and others working on FRBC funded silviculture projects; and to assess the effectiveness of silviculture treatments in maintaining existing habitat features (e.g.: wildlife tree patches and riparian reserve zones) and the restoration of important habitat attributes in second growth (e.g.: hasten the development of wildlife trees, old growth characteristics and vertical and horizontal structural diversity).

Studies must be conducted to assess the impacts of silviculture treatments not only on specific species or guilds, but also on entire forest ecosystems, and to determine the best treatment techniques to protect or achieve desired habitat attributes.

Surveys and Assessments

A number of backlog areas are recommended for lower stocking standards or deferment in order to fulfil habitat supply and biodiversity objectives. Assessment and prescriptions are required to substantiate the recommendations.

15.4 Additional Funding Considerations

Many FRBC sponsored projects involve vegetation management activities and thus the need for a Pesticide Use Permit (PUP). MELP staff must review these applications; however, the ministry does not receive funding from FRBC for this added workload. FRBC should consider compensating MELP for the review of permits required for FRBC funded projects.

The target number of hectares to be treated under each type of habitat enhancement project are to be used as performance measures in this RMP. The target number of hectares will be compared to the actual number of hectares treated. Further work on performance measures is required through MELP review and recommendation to FRBC. The current performance measures do not directly contribute to timber volume gain or employment calculations, nor do they measure the effectiveness of the treatments for habitat enhancement.

All habitat enhancement projects listed in Table F were rated by MELP as being of high priority on an ecological basis for maintaining biodiversity.

15.5 Sustainable Harvest Program Strategy For Delivery

The Sustainable Harvest Program provides a mechanism to implement activities which not only enhance the forested land base but also make significant contributions to the associated non-timber values. MELP's goals of habitat enhancement and conservation of biodiversity can be addressed by adopting the following strategies:

Strategy - *"To establish and communicate broad, ecosystem level criteria for the protection and enhancement of non-timber values, to be incorporated into all Sustainable Harvest activity planning by 2003"*

Tactics to achieve this include:

- Setting regional and district strategies and priorities for protecting and enhancing values;
- Developing landscape unit plans detailing the location, type and extent of silviculture treatments best suited for habitat enhancement projects;
- Developing an information system to aid in the planning and evaluation of habitat management;
- Conveying strategies and information in landscape unit plans to licensees andthe Ministry of Forests.

Strategy - *"To develop and implement operational harvest guidelines for all critical habitat types as identified by resource inventory information by year 2003"*

Tactics to achieve this include:

- Critical habitat types will be identified through site series mapping and inventories, and information already complied by the Conservation DataCentre; Guidelines will be developed to protect and enhance existing habitat attributes;
- Guidelines will be developed to restore important habitat attributes in second growth forests identified during landscape unit planning; and
- Landscape units will be divided into different resource management zones. Specific guidelines will apply to each management zone and be incorporated into Silviculture Agreements (replacement to the Five Year Silviculture Plan).

15.6 MELP Habitat Enhancement Priorities – Sustainable Harvest Program

Review of strategic documents and discussions with Habitat Protection staff identified the need for eight types of habitat projects: reduce ingrowth effects on forage and browse production; deer, elk and open forest and grassland dependant species winter range enhancement; deer and elk spring forage enhancement; old growth attribute enhancement; riparian restoration; and specific habitat/ecosystem maintenance, monitoring and assessments. A brief description of the desired habitat attributes for each type of project and information on the selection of sites best suited for enhancement is provided below.

Reduce Ingrowth Effects on Forage and Browse Production:

The dry, low elevation grasslands and open forest and grassland stands of British Columbia's southern interior are defined by the Forest Practices Code Biodiversity Guidebook as Natural Disturbance Type 4 (NDT4), characterized by "frequent, stand-maintaining fires". These stands include the Biogelclimatic Zones Interior Douglas fir (IDF), Ponderosa Pine (PP), and dry variants of the Interior Cedar –Hemlock (ICH). Low intensity surface fires are a part of the natural function of these ecosystems, maintaining a mosaic of grassland and open forest, while at the same time promoting the development of fire-tolerant overstories of mature ponderosa pine, Douglas-fir and Western larch. Several decades of active fire suppression in the NDT4 has resulted in tree establishment in previously treeless openings (encroachment) and excessive tree recruitment in open forests (ingrowth) beyond the level these sites can support. The primary tree

species responsible for both processes is Douglas fir. The consequences of ingrowth and encroachment are poor forest health, poor timber quality and degraded range and habitat values.

Strategic level planning now focuses guidelines intended to improve productivity and health of fire maintained forests and rangelands by restoring stand structure and species composition through modern methods of timber harvesting, spacing and prescribed burning. Restoration improves forest stand vigour, increases wildlife carrying capacity, reduces the risk of catastrophic wildfires, recycles nutrients, and rejuvenates natural plant communities. Financial support for restoration efforts is provided from a wide consortium of interests, based on planning and implementation strategies developed through multiple agencies.

Deer and Elk Spring Forage Enhancement:

During winters of heavy snowfall, ungulates expend extra energy moving through snow, while taking in less energy from forage than is normal. By spring, they may be weak and near death from starvation. At such times, it is critical for them to obtain highly nutritious food as soon as possible. Consequently, good quality spring forage is needed close to winter ranges. Spring forage enhancement projects are encouraged within 500 meters of deer and elk winter ranges to meet this requirement. On many potential spring ranges, growth of forage species is limited by the closed canopies of dense young forests. Techniques usually focus on creating forage beside cover areas either by sequentially harvesting small blocks, or by thinning stands which still have abundant forage species in the understory.

Deer, Elk and Open Forest and Grassland Dependant Species Winter Range Enhancement:

In several landscape units dominated by second growth forest with few widely spaced winter ranges, there is a need to create additional winter ranges by hastening the development of old growth forest attributes on south facing slopes. Through manipulation of stand density and uniformity it may be possible to produce useful ungulate winter range in second growth stands much earlier than would occur naturally with benefits to other open forest and grassland dependant species. The process begins with the selection of young stands, ideally Douglas-fir, on sites with appropriate topographic characteristics (generally southern exposure, 300 to 1000 meters in elevation, slope 30 to 80 percent, and a few rocky outcrops). The primary approach is to thin and prune the stand early to maintain a good forage base and minimize debris accumulation. Stand development is then monitored and additional stem removal or pruning is conducted on small areas when forage production begins to decline. More detailed information on deer and elk winter range, thermal cover, and spring forage enhancement is provided in "J.B. Nyberg and D. W. Janz. 1990. *Deer and elk habitats in coastal forests of southern British Columbia.* MOF and MELP".

Old Growth Attribute Enhancement:

In heavily harvested landscape units characterized by extensive areas of second growth, the rapid development of old growth attributes is important to meet the requirements of old growth dependent species (goshawks, cavity nesting birds and mammals), particularly where old growth

stands are limited. Spacing, pruning, and fertilization may hasten the development of these charactertistics.

Riparian Restoration:

Many cutblocks harvested prior to implementation of the Forest Practices Code were harvested to the edge of waterbodies. Frequently, these riparian areas regenerated to thick brush with poor conifer representation. In these areas, it is a priority to re-establish forests and habitat conditions similar to those that existed before harvest. Cluster planting with large nursery stock and reduced stocking rates may help meet these objectives. It is important to grow big trees as soon as possible to provide bank stability and vertical stand structure, and as future sources of wildlife trees and coarse woody debris for aquatic and terrestrial processes. Fast-growing and short-lived deciduous trees will be the first species to fulfil these roles. Consequently, deciduous tree representation is important in riparian areas currently lacking large conifers.

Riparian restoration projects funded through the Enhanced Forestry Program are not intended to be of the same magnitude or replace those funded through the Watershed Restoration Program. Rather, if FRBC funded silviculture work is being conducted adjacent to logged riparian areas, then measures should be taken to re-establish habitat conditions similar to those that existed prior to logging.

TABLE F: Sustainable Harvest Habitat Supply Activities KOOTENAY BOUNDARY

Primary Strategic Decision Area	Secondary Strategic Decision Area	Management Unit	Resource Objective	Activity Proposed	Plan Goals (Hectares)					Required Funding for 00/01 ($,000)	2000/2001 Average Unit Cost ($/ha)	Priority
					2000/01	2001/02	2002/03	2003/04	2004/05			
Strategic Direction for Habitat Protection Towards an Old Growth Strategy (Kootenay Boundary Land Use Plan) Resource Management Zones for Kootenay Boundary Region	Biodiversity Guide Landscape Unit Planning Guide Identified Wildlife Management Strategy		Reduce Ingrowth Effects on Forage and Browse Production *(In partnership with the Grazing Enhancement Fund, Habitat Conservation Trust Fund, Columbia Basin Fish & Wildlife Compensation Program, the MOF and the Rocky Mountain Elk Foundation)	East Kootenay Trench: Invermere and Cranbrook Forest Districts: Spacing, pruning, brushing & burning; also, Arrow, Kootenay Lake and Boundary Forest Distncts	*1800	*4232	*1730	*1500	*1500	* MELP/FRBC Partner Funding Contribution Request $20,000 for 2000/01	*	H
Strategic Direction for Habitat Protection (Kootenay Boundary Land Use Plan) Resource Management Zones for Kootenay Boundary Region	Biodiversity Guide Landscape Unit Planning Guide Identified Wildlife Management Strategy		Deer, Elk and Open Forest Dependant Species Winter Range Enhancement	Space, prune	90	200	200	200	200	58	644	H
Strategic Direction for Habitat Protection (Kootenay Boundary Land Use Plan) Resource Management Zones For Kootenay Boundary Region	Biodiversity Guide Landscape Unit Planning Guide		Deer and Elk Spring Forage Enhancement	Spacing	40	50	50	50	50	24	600	H
Strategic Direction for Habitat Protection Towards an Old Growth Strategy (Kootenay Boundary Land Use Plan) Resource Management Zones for Kootenay Boundary Region	Biodiversity Guide Landscape Unit Planning Guide Identified Wildlife Management Strategy		Old Growth Attribute Enhancement	Spacing, pruning, potential fertilization, studies	25	40	40	40	40	18	720	M
Strategic Direction for Habitat Protection (Kootenay Boundary Land Use Plan) Resource Management Zones for Kootenay Boundary Region Towards an Old Growth Strategy	Biodiversity Guide Landscape Unit Planning Guide Identified Wildlife Management Strategy		Riparian Restoration	Prescriptions, planting	20	30	30	30	30	10	500	H
Strategic Direction for Habitat Protection (Kootenay Boundary Land Use Plan) Resource Management Zones for Kootenay Boundary Region	Biodiversity Guide Landscape Unit Planning Guide Identified Wildlife Management Strategy		Maintenance and Monitoring of Endangered Ecosystems and Plants	Others: Planning, Monitoring, Maintenance						5		H
Strategic Direction for Habitat Protection (Kootenay Boundary Land Use Plan) Resource Management Zones for Kootenay Boundary Region	Biodiversity Guide Landscape Unit Planning Guide Identified Wildlife Management Strategy		Forest Practices Code Compliance and Effectiveness Monitoring	Others: Monitoring, Studies						7		M
Strategic Direction for Habitat Protection (Kootenay Boundary Land Use Plan) Resource Management Zones for Kootenay Boundary Region	Biodiversity Guide Landscape Unit Planning Guide Identified Wildlife Management Strategy		Surveys and Assessments	Surveys, prescriptions						3		M

Notes:
Column 1 - Strategic plans that contain the habitat supply/biodiversity objectives
Column 2 - Secondary plan/initiative that contains a more specific reference to the habitat supply/biodiversity objective
Column 3 - Management units where habitat enhancement is a priority
Column 4 - Resource objective; habitat enhancement activities of high importance to MELP
Column 5 - Habitat enhancement activities proposed by forest licences
Column 6 - The target number of hectares that MELP would enhanced
Column 7 - Funding should reflect the historical costs of surveys, prescription developments, silviculture treatments and other activities
Column 8 - Average unit cost; funding should reflect historical costs. Where the activity is a portion of the treatment area an average cost over the treatment area is acceptable

Canfor - Canadian Forest Products Ltd.
WFP - Western Forest Products ltd.
MB - MacMillan Bloedel Ltd
TW - Timberwest Forest Products Ltd.
? - Information unavailable at time of RMP

Appendix 1 - FRBC Ground Rules

To be provided by FRBC

Appendix 2 - Consultation Report

RMP Consultation Chronology

June 28/29 - FRBC/MoF/MELP/Proponent RMP development process introduction meeting. Followed same format as June 8th Interagency meeting.

SO Steering committee's established (EEV/SSFM) - first meetings July 19/20th.

EEV SC members include: Kathy Eichenberger, Herb Tepper, Bernie Peschke, Al Coombs, Pat Cutts, Hak Nielson and Ethan Askey.

SSFM SC members include: Bernie Peschke, Mike Geisler, Cal Hauk; Kathy Eichenberger, Al Sabotin, Gerry Fox, Doug Lang, Dave Brown, Angus Graeme

Notice to TFL licensees (July 27th) re: RMP submission requirements, timing and format.

Notification to Utzig/Bergenski re: RMP process for SSFM by Cathy Scott-May (July 25th)

July 28th forwarded MoF SSFM potential project listing to districts/TFLs for review and input prior to submitting to Cathy Scott-May

August 10th meeting with Rob Gay, Bernie Peschke and Kathy Eichenberger. Status update and discussion of upcoming timelines/needs etc...

August 25th SSFM steering committee meeting. New members now include Greg Utzig and Rachel Holt. At length discussion on RMP communication strategy leading to position for FRBC consideration.

August 26th EEV steering committee meeting.

August 31st SH steering committee meeting. Members include: Bernie Peschke, Mike Geisler, Brian Simpson, Bruce Fraser, Ivan Listar, Sue Crowley, Marci Belcher and Lyle LeClair.

September 1st meeting with Rob Gay, Bernie Peschke and Kathy Eichenberger. Status update and discussion of ground rules and MYA funding legality issue..

September 16th meeting with Rob Gay, Bernie Peschke, Kathy Eichenberger and Cathy Scott-May. Status update, discussions on MYA funding commitment vs priority recommendation implementation, further refinement of ground rules and communications strategy.

September 17th SSFM SC meeting. Peter Affleck in attendance. Potential project listing discussed with result being to group projects in one of three tiers or priority groupings as the recommendations listing. Draft project listing circulated to all licensees and districts for review and comment by September 21.

September 21st EEV SC meeting. Final review of draft and recommendations prior to circulation to all licensees and districts for review and comment by September 19.

September 24th SH SC meeting. Review of management unit submissions (at 80% funding level) followed by discussion and recommendations on how remaining 20% should be reallocated. Base level recommendations to be amended upwards by September 28th to reflect additional allocations.

September 30th RMP submission date.

Steering committee meeting minutes/summaries are attached.Minutes of EEV Steering Committee July 19, 1999 meeting

The initial steering committee meeting was held on Monday, July 19 at the MELP office.

The key target of FRBC's Enhanced Environmental Values strategic objective is, over the next 5 years, to complete the restoration of 20% of the highest priority watersheds that have been impacted or are threatened by past forest development activities in the Kootenay region. The highest priority watersheds are to be identified on the basis of fisheries and aquatic resource values and the likelihood of restoration success.

The RMP process in the Kootenay region will be consistent with provincial RMP planning principles and guidelines. The regional steering committee will guide the RMP process by providing the following:
identification of key regional issues,
guidance on the development of the RMP,
review and comment on the draft RMP and resolution of any issues,
recommendations of investment opportunities for implementation of the plan.

The steering committee reviewed the RMP guidelines and the preliminary work done to date. The following preliminary documents were distributed to the committee:
Fish Species/Stocks of Concern
Fish Ranking Criteria
ConsumptiveWatershed Ranking Criteria

There was considerable discussion on the size/scale of the watersheds units. It was thought that Landscape Units were too small to be practical, did not follow physical watershed boundaries and did not cross district boundaries where appropriate. Therefore it was decided to delineate watershed unit boundaries based on an area range between 30,000 and 75,000 hectares that would best reflect geographical characteristics, physical similitude and groupings of similar values. MELP would conduct a GIS exercise to define watershed units for all districts. These would then be reviewed and revised as required at the district level.

The RMP will cover a period of 3 to 5 years. It was acknowledged that beyond the first 2 years the information provided would be highly speculative.

It was agreed that there would be an appendix to the EEV RMP identifying non-fish/non-consumptive watershed priority upslope and road work so that these needs would be captured for funding through alternate sources.

It was agreed that the RMP would not make any differentiation between TSA and TFL (i.e. no separate RMP for TFLs).

The RMP process guidelines recommend that not more than 25% of all watershed units be ranked

as a very high priority. However, it was agreed that because of the number of community watersheds in our region and their impact on priority rankings of watershed units, we would not necessarily be limited to the 25% limit.

The committee questioned the eligibility status of category VI watersheds/projects (monitoring of completed works). The committee generally felt that this category should be legible for funding. Kathy E. to get clarification on this issue.

After steering committee review, MELP will distribute maps, fish/water values, ranking and categories to districts via the ops managers along with specific instructions. MoF and MELP district staff, in conjunction with licensees will then complete the database tables similar to those provided in the EEV RMP guidelines.

Several questions were raised and left unanswered - to be resolved at a later date. These were:
which activities should be funded in which order within a given watershed?
how to estimate cost of 5 years of work in a given watershed when is restoration complete?

Finally, the following task list and schedule was agreed to:

WHAT	WHO	WHEN
1. Provide fish species and stocks of concern for the Boundary district	MELP to steering committee	July 23
2. Provide comment on fish/water values and ranking criteria	Steering committee to MELP	July 23
3. Delineate watershed unit boundaries for all districts	MELP	July 23
4. Provide maps, fish and water values, ranking, categories and tables	MELP to district ops managers	July 28
5. Completion of RMP tables per district	MoF, MELP district staff	Aug. 20
6. Setting of ground rules for prioritisation of top 20%	steering committee (by email)	Aug. 23
7. regional review of district tables and regional prioritisation of top 20% watersheds	steering committee	Aug. 26
8. draft RMP	MELP	Aug. 31
9. Distribution of Draft RMP to licensees, FRBC and districts	MELP	Sept. 1
10. draft ground rules for investment recommendations	steering committee (by email)	Sept. 3
11. Licensees, stakeholder and	MoF, MELP, FRBC	Sept. 15

public consultation		
12. Finalization of ground rules and investment recommendations	steering committee	Sept. 21
13. Finalization of RMP	MELP	Sept. 30

Minutes of the SSFM steering committee meeting July 20, 1999

July 22, 1999

To: Strengthening Sustainable Forest Management Steering Committee

From: Cathy Scott-May, Committee Chair

Included in this file is a summary of the July 20, 1999 meeting of the Strengthening Sustainable Forest Management Steering Committee. It summarizes the discussion and action points which were identified at the meeting.

Timelines
As the next meeting of the Steering Committee is planned for August 19, 1999, the work associated with Phase 1: Identification of Potential Projects should be completed by July 30, 1999. It will be distributed to members of the Steering Committee and more widely throughout MOF and BCE following that time. During the period of August 3 - 16th further work will need to be done on the list of potential projects in order to facilitate the priorization exercise to be undertaken on August 19th. This further work will be based on the guidelines provided to the committee and will include additional principles and/or criteria which might assist in the priorization process. I will send materials (templates and background information) to you by August 3rd to assist you with this additional work The completed templates will need to be returned to me by the end of the working day, August 16, 1999.

First cut at identification of potential projects:	July 30, 1999
Second set of templates sent to Steering Committee:	Aug. 3,1999
Additional work on potential projects to support priorization process:	Aug. 16,1999
Next meeting of Steering Committee:	Aug. 19, 1999

Please call (250-359-7831) or email me (cascott@wkpowerlink.com) if you have any questions.

Developing Recommendations for the Strengthening Sustainable Forest Management Component

The following summarizes the discussion of the Strengthening Sustainable Forest Management (SSFM) Steering Committee of July 20, 1999.

Guiding Principles Phase 1: Identifying Potential Projects
The following principles will be used to establish a list of potential projects for consideration by the Steering Committee. It should be noted that additional principles will be used to priorize the potential projects but that is considered to be the second phase of the process.

1. For the most part, existing project commitments will be honored. Where projects have multiple phases, in some circumstances support for follow-up phases may be re-evaluated.

2. As outlined in *Resource Management Plan Appendix III: Guidelines for the Strengthening Sustainable Forest Management Component - Working Draft,* the focus of the Steering Committee is to develop a Resource Management Plan (RMP) which will support the Timber Supply Review (TSR) process and delivery of the Kootenay-Boundary Land Use Plan Implementation Strategy (KBLUP-IS). Specifically, the committee will define projects which identify and priorize:
information gaps;
requirements for tools and models for applying resource information, and;
new approaches through experimental management pilots.

As a result, the initial list and assessment of potential projects will be derived from a review of past TSR processes and the corporate workplan and other delivery work associated with the KBLUP-IS. As some of these source documents may identify issues as opposed to projects, they will only be included if a reasonable project description can be generated which includes basic methodology which is deemed to be "do-able".

Of this list, a key focus for initial assessment will be on potential projects which are identified as supporting both the TSR process as well delivery of the KBLUP-IS. A review of the KBLUP-IS will likely identify potential projects which cover a broader range of issues than might surface through a review of additional information requirements for TSRs. This quick initial list of potential projects will assist the Steering Committee in determining if and how equity questions between the two main decision-making processes (TSR and KBLUP-IS) will be addressed.

Additionally, it is recognized that other and more recent strategic initiatives can also provide valuable insights for the SSFM Steering Committee. These additional sources will be considered following the initial phase and as time allows.

3. An integrated approach will be used to define project priorities. The effort will be a collaboration on the part of the key implementing agencies and forest company licensees with input from additional stakeholder sources as required and as time allows.

The tight timelines combined with the inherent complexities of developing the SSFM component of the RMP will shape the process. A two stage approach (course/fine filter) will be used in each of the phases of the process. The course filter efforts will draw on existing information and best professional judgment when necessary. The intention is to provide as much time as possible in developing the necessary details at the fine filter level in order to facilitate implementation of the RMP. MOF and BCE should consider this early identification and assessment of potential projects as "course filter" work and avoid delving into too much detail. The second phase will consist of the fine filter work, namely the compilation of an integrated and priorized list of potential projects based on closer examination.

4. The RMP is regional in scale. Identification of eligible projects must consider the regional significance of potential projects. Few projects involve the entire regional land base. Therefore, regional significance will be considered in other ways, such as opportunities to apply lessons learned elsewhere in the region and opportunities for linkages between projects occurring elsewhere in the region. As well, a project may have such tremendous significance for one TSA, TFL, Forest District, etc. that it should be considered regionally significant.

Specific Tasks for Phase 1
Note: The following is an overview of the various tasks. Templates to assist in undertaking these tasks are provided in this file.

The majority of work for Phase 1 will be conducted by MOF and BCE staff, independently of each other. They will focus on the aspects which are consistent with their mandates for land and resource management. However, the division of labour is not hard and fast - discussion between key MOF and BCE staff is encouraged and a conservative approach to investing staff time in this initial phase is recommended.

1. Compile a list of current projects. There are two main purposes for this task:
current projects may already be addressing identified needs, therefore possibly eliminating from the list of potential projects, or at least modifying them, and;
while there is a need to respect existing commitments and partnerships, there may be need to revisit support for current projects which are multi-phased to assess whether they remain a top priority for funding.

Both MOF and BCE will compile lists of projects.

2. Review potential projects as identified through previous TSR processes to assess:
current relevancy. This is a coarse level assessment which would involve a cross-check with step #1 - current projects already underway and the professional judgment of the few people who are charged with this initial work. This professional judgment will receive wider review as this initial work is shared and the evaluation of current relevancy can change - the intent is only to provide a first cut at trimming the list of potential projects.
consistency with the strategic direction in the KBLUP-IS and top priority delivery issues associated with that plan.

While MOF will likely undertake the bulk of the review of the TSR processes, BCE will also need to assess them for potential projects related to their mandate.

3. Assess remaining implementation projects arising from the KBLUP-IS (as defined through the Corporate workplan and other delivery initiatives provided by the IAMC Program Manager) relative to: consistency with the types of projects to be considered by this Steering Committee (principle #2 above); potential involvement with/impact to future TSR processes, and;
other existing and emerging policy and strategic direction which could shape the potential project.

BCE will utilize the KBLUP-IS as a main source of potential projects relative to the priorities identified by its various program representatives. MOF will consider KBLUP-IS projects following its review of TSR processes. Both agencies will be assisted by the IAMC Project Manager in terms of providing documents and interpretations of IAMC priorities.

4. Assess the resulting list of potential projects in terms of regional significance as per principle # 4 above.

Each agency will do so for their list of potential projects.

5. Provide the results of the first four tasks to the Chair for wider distribution to the Steering Committee, as well as internally within the agencies, to other industry representatives people (to be determined and sent by industry reps on the Steering Committee) and other key stakeholders as was identified at the July 20th meeting. Prior to the wider distribution, one MOF and one BCE staff person will be offered the opportunity to scan the efforts of the other agency and make overview comments from a ministry perspective. This will not change the work of the other agency prior to it being sent for wider distribution, rather it will provide people with some initial comments as context for their review.

Table 1: Current Projects Underway

Table 2: Potential Projects Resulting from a Review of the TSR Processes

The purpose of this table is to identify potential projects which have been identified as gaps in the TSR processes from documents which are directly associated with the AAC determination process. This table also seeks to cross-reference such projects with delivery needs for the KBLUP-IS. As some of these source documents may identify issues as opposed to projects, they will only be included if a reasonable project description can be generated which includes basic methodology which is deemed to be "do-able".

Note: the column which asks for an assessment of current relevancy is a coarse level assessment which involves a cross-check with *Table1 - Current Projects Underway* and the professional judgment of the few people who are charged with this initial work. This professional judgment will receive wider review as this initial work is shared and the evaluation of current relevancy can change - the intent is only to provide a first cut at trimming the list of potential projects.

Projects must be assessed as to 2their "Regional Significance". This is a coarse level filter which assesses the geographic implications of the project - e.g. opportunities to apply lessons learned elsewhere

in the region and/or opportunities for linkages between projects occurring elsewhere in the region. In some cases it may imply a priority rating, such as when a project is so significant for one TSA, TFL, Forest District, etc. that it should be considered regionally significant.

Table 3: Additional Potential Projects Arising from KBLUP-IS

This table seeks to identify projects which support the delivery of the KBLUP-IS *in addition to* those identified in Table 2. As some of the KBLUP-IS source documents may identify issues as opposed to projects, they will only be included if a reasonable project description can be generated which includes basic methodology which is deemed to be "do-able".

Projects must be assessed as to their "Regional Significance". This is a coarse level filter which assesses the geographic implications of the project - e.g. opportunities to apply lessons learned elsewhere in the region and/or opportunities for linkages between projects occurring elsewhere in the region. In some cases it may imply a priority rating, such as when a project is so significant for one TSA, TFL, Forest District, etc. that it should be considered regionally significant.

Minutes of the SSFM steering committee meeting Aug. 25, 1999

The following summarizes the discussion of the Strengthening Sustainable Forest Management (SSFM) Steering Committee of August 25, 1999.

Regionally Significant Issues

BCE and MOF staff identified the regionally significant issues, which are being addressed through the projects, which they have put forward for consideration, by the Steering Committee.
MOF projects address the following issues:
vegetation updates
growth and yield related information
AAC/TSR determination factors
sampling issues
need for a common platform for managing data.
MOF has identified that there are operational issues, which are not necessarily related to the TSR and KBLUP-IS that are information gaps. These projects have not been included given the mandate of the committee is to focus on those which support the TSR and KBLUP-IS.

BCE projects have been identified on the basis of the three main programs within the agency: water, fish and wildlife (habitat) as well as specific projects resulting from TSR issues. The main subject areas which BCE projects address include:
Water
aquatic conservation and air quality strategies
water quality and quantity monitoring
locations of water intakes
Fish
red and blue species
habitat issues (spawning and distribution)
some recreation related issues
Wildlife
habitat (managing old and mature forests)
certainty around caribou and grizzly bear management
ungulate winter ranges (identification, classification, ranking and management of)
red and blue species (distribution and habitat usage)
TSR
how information is modeled and or used through the TSR processes to ensure it reflects the complex realities of natural systems

The committee identified some issues, which were not specifically addressed. Following discussions of those issues, MOF and BCE staff will review their existing projects to determine if modifications can address the concerns. Alternatively, new projects will be developed to address the issues identified by committee members.

There are numerous issues outside of timber and environmental values, which relate to delivery of the KBLUP-IS. The IAMC Technical Team is meeting on September 2, 1999. At that time, they will be asked to identify any additional projects to be considered for inclusion in the overall list of potential projects. Margaret Bakelaar, IAMC Program Manager, will bring these additional projects to the committee.

Prioritization of Potential Projects

MOF and BCE staff is currently working to complete the prioritization criteria templates for each project. Following discussion with the committee, some changes will be made to the criteria and incorporated into the evaluation process currently underway. The changes include adding an assessment of consequence to the BCE criteria, allowing for a neutral overall rating for potential impact to both the timber and environmental assessment (some projects may not affect other values) and defining the type of project (inventory, analytical tool, pilot project).

The committee agreed that not all criteria are of equal value. Therefore, BCE and MOF staff will meet with the committee chair to develop draft weighting criteria, which will be applied to the various criteria. The committee will have an opportunity to review and comment on the draft criteria before it is used. MOF and BCE will complete their evaluations of potential projects by Friday, September 3, 1999. The committee chair will then use the database of information to develop a short list of potential projects. The general process to be used is as follows:

Overall rating in terms of Potential Impact

Timber - High
Environmental Values - High

Timber High, Env. Neutral
Env. High, Timber Neutral

Doability - High

Supports the TSR and KBLUP and is Regionally Significant
and compare this with:

Supports the TSR (not KBLUP) and is Regionally Significant
Support the KBLUP (not TSR) and is Regionally Significant

Results in the first cut at short list of projects

Existing multi-year projects will be added to the list, as will projects that have been developed by the IAMC Technical Team, which address issues outside of strictly timber and environmental values. The

agencies and committee members will review the list of projects. At the next committee meeting, agency staff and/or committee members can recommend adding or deleting projects from the list provided they have a strong rationale for doing so. The committee will discuss any amendments to the list and produce a final list of projects that have been developed on the basis of technical evaluation.

NOTE: The committee continues to raise questions about whether and how existing multi-year projects will continue to be supported by Forest Renewal BC. MOF and BCE staff will pursue greater clarity from Forest Renewal BC on this issue. Forest Renewal BC staff will also be asked to clarify the issues for the committee at the next meeting. Industry representatives of the committee have also asked that Forest Renewal prepare a list of projects that are identified for next year in the current investment plans.

Funding Criteria

The committee will define funding criteria to be applied to the final list of projects in order to develop their recommendations to Forest Renewal BC as well as other potential funding agencies and sources. The committee has identified the following general categories of funding criteria:

Forest Renewal Factors: potential job creation
partnership issues
dollar value

Equity: geographic
issues/areas of concern
administrative areas of concern

Project type: inventory
analytical tools
pilot projects

Further work will be undertaken to more clearly define these funding criteria and how they might be used. This will be a major point of discussion at the next meeting.

Interim Decisions

The tight timelines for the work of the committee, and in particular the background work being done primarily by MOF and BCE staff, are giving rise to concerns about making long-term funding allocation decisions. MOF and BCE view the Resource Management Plans as a process, which will continue to evolve over a period of a number of months. This is, in part, because Forest Renewal BC is only one of the funding sources, which could use the RMPs, albeit FRBC is likely to be the major funder. Therefore, the committee will consider recommending using a "fall back" process for firming up allocation decisions that are required in the short-term. This may involve a more in-depth review of projects prior to funding actually being allocated. Such a review would also likely result in modifications to the overall RMP process to be used in subsequent years. The details of the in-depth project review process will be a subject for the next meeting.

Stakeholder Consultation

The committee identified three main topics for discussion with stakeholders that should be pursued through stakeholder consultation:
past achievements. The committee felt that considerable successes have been achieved through Forest Renewal funding and the current public perspectives do not reflect that.
Stakeholder perspectives on the funding criteria. The committee felt that most stakeholders are primarily interested in the decisions on funding allocation, as opposed to the technical review of the projects.
Identification of potential partnerships to implement the projects. Some committee members feel that Forest Renewal should broaden its partnership relationships in the region. Additionally, the Ministries view the RMPs as identifying projects, which might be supported by organizations beyond Forest Renewal. Therefore, there needs to be discussion with stakeholders and other potential funding organizations regarding opportunities for implementing the projects.

The committee believes a credible stakeholder and public consultation process is required, given the history of consultation in the region. The committee does not believe a credible process can be undertaken by the end of September 1999 as there is insufficient time and the work of the committee is still in progress. Additionally, MOF and BCE question the need to have stakeholder consultation prior to the end of September as they see the RMPs continuing to evolve after that time. The committee recognizes there are dangers in conducting consultation after the September 30th Forest Renewal deadline as it may appear decisions has already been made. However, the committee believes that the three main points to be discussed with stakeholders (as indicated above) are viable topics of discussion following the September 30th deadline.

Therefore, if Forest Renewal BC wishes to pursue stakeholder consultation prior to the end of September, the committee has recommended that it do so independently. At the next meeting, the committee will define recommendations on how a credible stakeholder and public consultation process might be undertaken and who should receive such recommendations.

Next Meeting

The next meeting is scheduled for September 17, 1999.

Minutes of the EEV RMP steering committee meeting on August 26, 1999

Herb Tepper reviewed the process, how boundaries of watershed units were derived and results to date. Data was received from all districts except fish location data from Boundary district (received since then).
Some inconsistencies and inaccuracies were noticed in the district data. Herb Tepper and Kathy Eichenberger were to review data within the following week. (Herb Tepper has since reviewed and corrected data.)
It was decided to include category 5 (insufficient information) as eligible for funding.
There were 290 watershed units defined in the region. Of those 210 units were categories 1 and 2 (impacted watersheds from Pre-code forestry and other land uses). 40 watershed units were category 5. 130 of the 290 watershed units ranked very high or high priority - 91 of those were in categories 1 & 2.
There were concerns regarding rating some of the bull trout streams as moderate priority when bull trout is a sensitive species of concern and blue listed. There are bull trout in 176 of 290 watershed units. It was decided to upgrade some bull trout streams as high priority No. 2 - contains species/stocks of concern that are not a significant commercial or recreational fishery. Herb Tepper will revise fish ranking descriptions as adopted by the steering committee.
It was decided that sturgeon streams would be ranked very high priority but not included in category 1 since the stock is not impacted by logging, even though part of the watershed units are.
It was decided that were watershed units fell both in categories 1 and 6, then they would default to category 1.
The steering committee decided that the percentage of "highest priority watershed units" as identified in the RMP guidelines would be defined (VH1fish + VH2fish + VH water-comm w/shed + Hfish)/ total watershed units
It was decided that the mapping used for prioritization and recommendations for funding would consist of Very high and high priority ranked watershed units in categories 1, 2, 5 and 6.
(Note: since Herb has reviewed district data and revised ranking definition, the number VH and H watershed units have increased.)
The steering committee proposed to adopt as hierarchical segregation of the above defined highest priority watersheds as a basis for future recommendation for funding. it would be defined as follows:

VHwater + VHfish (i.e. watershed units that had both ranking) (approx. 10 w/shed units)
Top 10 largest VHwater (approx. largest number of users)
Top 10 commercial/recreation VHfish
Remainder of VH
High

It was decided that recommendations for funding would first consider w/shed units in class I, then II, etc. in the order outlined above.

There was a preliminary discussion on ground rules for recommendations for funding. There was discussion on considering least damaged watersheds first over those that had extensive long term

impacts. It was also suggested that w/sheds with works commenced or with substantial investments in place should also be considered first.
(Since the steering committee meeting, Rob Gay has asked that the draft RMP also identify the 20 % of the highest priority watersheds to be restored within the next 5 years - as per the stated performance measure for EEV RMP. Herb Tepper will attempt do so, using the hierarchical approach outlined above - subject to approval of the steering committee at its next meeting.)
Herb Tepper will assemble draft RMP and submit to FRBC by Wedn Sept. 8. FRBC will distribute draft to all Licensees.
Steering committee will meet again on Sept. 21 to finalize ground rules and make recommendations for funding.

SH Steering Committee Meeting Minutes Aug. 31, 1999

The following is my understanding of the committee discussions at the Aug.31st meeting and the resultant agreed upon guidance to the ministry and FRBC. This incorporates further discussions with Rob Gay the following day to address the MYA commitment concerns expressed at the end of the day.

I consider these notes as draft and still open to refinement, however, I have cc'd district ops. mgr's as an update since time is quickly becoming a factor. The key objectives of the meeting were to:
provide the ministry with the necessary direction required to complete the RMP submission by Sept. 30th.
provide FRBC with investment decision ground rules for consideration/adoption.

Related issues included:
Historic funding levels versus priority driven allocation needs specifically between district and within district (TFL/TSA) allocations.
MYA and entrenched activity costs
Habitat mtce. activities

Funding allocation options discussed:
Status quo - allocate regional allocation on % of historic allocations
AAC - allocate as % of current AAC
$ Contribution - allocate as % of $$ contribution to FRBC
Needs analysis - allocate based upon Type I analysis and TFL needs submissions
MYAs - allocate based upon % of MYA committments

Discussions:
pros and cons of various options were discussed with consensus being that a blended approach based upon the strategic investment analysis (5 above) was appropriate.
decision was made to move towards a priority driven investment allocation mechanism in a measured manner. For 2000/01 an 80% funding committment to the management unit (TFL/TSA) would be made with the remaining 20% to be subject to reallocation based upon FRBC strategic objective targets and agreed to principles. The 80% funding committment is dedicated for investments within the management unit. FRBC has also indicated that the maximum funding will be capped at 20% over 1999/00 levels (eg: 2000/01 funding to fall within 80-120% range)

FRBC strategic objective targets:
increase available timber for future harvest by 1.5MM3
discussion as to whether intent is to create new m3 relating to AAC or availability or m3 to make AAC easier to find.
disucssions suggest SH target should be tied to new m3 (availability may be better addressed through SSFM projects). Priority ranking and allocation decisions are also more rationally feasible.
increase the economic value of timber by 5-30%

regional target set by Rob is 5 %, however, on what basis achievement is to be determined is still a point of discussion. Any ideas - % of annual investment dollars; % of hectares receiving treatment given funding levels; estimate of incremental value to annual harvest based upon investment dollars; or ?
Investment decisions guided by stewardship plans in management units.
Planned activities must have reasonable costs estimates within regionally relevant cost guidelines.
focus on positive changes for the planning unit as a whole.
Rob confirmed two additional FRBC performance measure based upon a a regional percentage of provincial targets
2150 ha added back to the commercial forest base through surveys and planting. (primarily treating new backlog NSR sites)
6250 ha of previously planted land will be brought to free growing status. (primarily brushing on commenced upon backlog NSR prescriptions)

The process by which investment decisions would be made leading up to the final investment recommendation is as follows:

Step 1
first priority is to fund entrenched cost associated with commenced upon backlog prescriptions and any multiyear project contractual committments (eg: silv. study spanning 2 yrs...not to complete spacing block stopped by snow).
District staff in cooperation with licensees are to confirm the funding requirements for 2000/01.
this info to be collected and submitted to the regional office by Sept. 13th (form and instructions to be provided)

Step 2
Rick Allen to confirm the 80% funding level by mgm't unit based upon EF/backlog committment in MYP from 1999/00.

Step 3
80% mgm't unit(MU) allocation will be comprised of entrenched $$ tied to the MU plus additional funding to bring it up to the 80% committment level.
additional funding investment decisions will be guided by investment principles established by the steering committee and FRBC's strategic investment targets.
If entrenched costs exceed the 80% funding limit then the unfunded activities will be forwarded to the SC for address within the other 20% withheld funding.

Step 4
The 20% funding withheld will be retained and reallocated by the steering committee to the MU(s) to address unfunded priorities. Investment decisions will again be guided by the established principles and FRBC strategic investment targets.
Districts/TFLs are to forward a list of unfunded priorized activities that equate to no less than their historic 100% funding level (form and instructions to be provided).

Investment recommendations are to be guided by the following principles.
Principles:

First priority will be given to covering entrenched costs.
target generation of new m3 with treatments having short term impacts rated higher than those affecting the mid term. Similarily mid term over long term.
from a regional perspective hardest hit MUs from risk of AAC reductions will be ranked higher for investments. Consideration given to short vs mid/long term treatment considerations/opportunities.
reliability of strategic analysis will also be a regional consideration in any allocations. Is need based upon TSR 1 or 2 base case and/or has a Type 1 or 2 analysis been prepared.
Activities should attempt to address the greatest possible multiple benefits

Next meeting will be held on Sept. 24th in Nelson regional. Will be in Kokanee board room commencing at 8:30am pst. Intention would be to review submissions and make final allocations decisions re: the 20%.

Minutes of the SSFM Steering Committee meeting Sept. 17, 1999

The following summarizes the discussion of the Strengthening Sustainable Forest Management (SSFM) Steering Committee of September 17, 1999.

Prioritized List of Projects
The database analysis resulted in a first cut of project rankings and was distributed to the committee prior to the September 17th meeting. Before discussing potential changes to the list of projects, agencies and the industry representatives were asked to outline their intended use of the list of projects.

Forest Renewal BC
FRBC has contracted the Ministries of Forest and Environment to undertake the technical prioritization process. The intention has been for FRBC to have limited involvement in this process so as to ensure the priorities reflect the urgent issues and best scientific assessment of information gaps, as opposed to being unduly influenced by funding criteria. The two general points of guidance FRBC has identified is that, for the Kootenay Region, the available amount of money for SSFM projects is approximately $3.1 million and the intention is to honour existing commitments to the extent possible (which will also come out of the $3.1).

Once the technical prioritization process has been completed, FRBC will take the lead and evaluate the list of projects with respect to their criteria and investment planning needs. Over the course of the late fall and early winter, FRBC will work with their Multi-Year Agreement holders to develop detailed workplans. FRBC will involve MOF and BCE in the early stages of the workplan development process to ensure that the generation of standards agreement is a smooth and efficient task. FRBC will be encouraging MYA holders to take responsibility for the high priority projects. If some high priority projects are not picked up by existing MYA holders, other partners may need to be found to do so.

Multi-Year Agreement Holders - Forest Industry
The list of prioritized projects will be reviewed by industry and individual companies will pick projects which are of importance to them and their operating areas. The companies have their own list of top priority projects, some of which may not be included in this list, and industry will be seeking to undertake such projects. FRBC response was that such projects must be included in this list and should be identified through consultation with MYA holders prior to the September 30th deadline.

Ministry of Forests
MOF has attempted to develop a complete list of potential projects and rank them on the basis of their contribution to the stewardship mandate of the agency. MOF will seek to ensure the highest priority projects will be completed. They will actively manage the process to the degree possible, however they recognize that their role beyond undertaking the technical prioritization is of a limited nature.

Ministry of Environment

BCE has attempted to develop an exhaustive list of projects, some of which are eligible for FRBC funding. The list will be used to discuss inventory needs with a range of potential funding sources. It is hoped that those projects that are eligible for FRBC funding will be taken up by MYA holders.

IAMC

The list of projects will be used by the IAMC to assess potential funding through other sources (e.g. LUCO budgets, the FRBC Enhanced Crown Land Use Planning program, etc.). It is assumed that the priorities identified through this exercise can be used as a basis for allocating such funding.

Resulting Issues

As a result of the discussion on how various agencies and interests will use the list of prioritized projects, the following issues were identified:

partly due to the short-time frames allowed for the ranking process, as well as how BCE undertook the ranking, BCE is uncomfortable with the some aspects of the current rankings of their proposed projects. While the split between high and moderate categories is generally acceptable, further work is required within the high category. BCE proposed to create three tiers of projects from those currently identified as high priorities, which may or may not involve ranking within the tiers.

the list of potential projects should be circulated to MYA holders to ensure the list is, in fact, complete. This must be completed prior to the September 30th deadline.

little direction can be given to MOF and BCE by industry on further ranking of the projects. The ranking process looks at projects from the perspective of regional significance, whereas industry representatives can and will only view the prioritization process from the perspective of the needs of their individual companies and their respective operating areas. As a result, the committee has given authority for further work on ranking projects to the agencies.

the FRBC funding for this region has steadily declined as FRBC has moved away from regional funding allocations on the basis of resource management needs to linking allocations to stumpage contributions.

an inherent difficulty in this region is that neither MOF or BCE will receive FRBC funding to conduct inventories which are of a strategic nature (beyond the interest of any one MYA holder) of significant to the resource management mandates of the agencies but of little interest to MYA holders. Some suggested solutions included taking a percentage from each MYA contract to give to the agencies, allowing/requiring the agencies to be contracted by the MYA to conduct such projects, or taking a percentage from each MYA contract and giving it to the ILMA so that it can take responsibility for such projects. Industry supports resolving this issue and providing funding to the agencies, but strongly opposes any move to take the funds out of the existing MYA contracts.

past experience has demonstrated that the implementation of projects does not always match the intent with which a project was first proposed. Some proposed solutions include: providing greater clarity and details at this early stage as to what the project should accomplish and the intended methodology to do so or to involve a greater range of interests and stakeholders at the project design stage. Given the uncertainity as to whether the MYA holders will, in fact, do all the top priority projects to be identified by the agencies, MOF and BCE do not feel it is a good investment of time and energy to provide greater clarity about each individual project. Rather, the resources should be spent on clarifying the project design process, specifically when that will occur and who should be involved.

Next Steps

Cathy Scott-May, with assistance from Bernie and Kathy, will put together the list of potential and existing projects to be circulated to MYA holders for review and comment. The intent is to provide MYA holders with the opportunity to add projects to the list. The list will be circulated by Tuesday, September 21st.

BCE will meet to review the projects currently ranked as high priorities to develop tiers of projects within that category. The criteria used in the database analysis will form the basis of this further evaluation but will be examined in more closely and the ranking will be undertaken corporately, as opposed to by individual programs. MOF projects have, for the most part, been ranked into three acceptable levels. However, as some of the projects are large, further work will involve identifying which projects involve phases and whether such phases should or can be prioritized. This final prioritization process will be completed by the end of Tuesday and circulated to committee members for review and comment.

Cathy Scott-May, under direction of Bernie and Kathy, will write the portions of the RMP document that are required to support the prioritized list of projects so that it can be submitted to FRBC by September 30th.

The committee will meet on Wednesday, October 13th to discuss the outstanding issues which have been raised through this process. Consultation on the issues will be undertaken prior to the meeting in order to solicit opinions from the MYA holders and others as time allows. The intent is to develop a statement of the committee which would assist potential funding agencies in understanding and using the prioritized list of projects. A second intent is to develop recommendations to be forwarded to the FRBC Board as to how the process can and should be improved.

Sustainable Harvest steering committee meeting minutes- Sept. 24, 1999

The following is a brief summary of the Friday (24th) SC meeting and our recommendations. Mgm't Unit (MU) data base submissions to a 80% and 120% funding level were rec'd by Sept. 24th. District TSA recommendations were to be developed in cooperation with licensees, however, it was noted that this did not occur in all districts due to a number of factors (generally time limitations). Submissions did however generally adhere with Type I analysis priority rankings which were jointly developed with licensees. Committee discussed some points of irregularity in submissions and expressed some concerns regarding consistancy in approach to completion and its accuracy/reliability. Recognized that a number of inaccuracies exist at different levels, however, given timelines for RMP completion no in depth critique of submissions is possible and may not necessarily affect the estimates significantly in any case. FRBC's committment is to honour MYA funding levels for 2000/01 while trying to target funding to priority needs. The following recommendations have been made in consideration of a shift to priority driven allocations by FRBC. The first priority was to address any unfunded legal backlog committments not coverable under the 80% scenario. Thereafter, at risk mgm't units for short term AAC fall downs were targeted for funding support to address the highest TYPE I analysis priorties flagged within their 120% scenario. Regional priorities were also considered at this time with funding support for PROBE plot remeasurements agreed upon.

The values are approximate and may vary slightly when funding levels are finalized and workplans are completed later this year.

Total Allocation	$5,465,005	- as provided by FRBC
Base MU funding	4,372,773	- 80% values as submitted by MU
	1,092,232	- available for priority reallocation

Recommended reallocations:
$265,445 - additional legal backlog not addressed within 80% funding level (Revelstoke TSA and TFL 3).
$190,597 - additional backlog reforestation surveys not addressed within 80% funding level (Invermere/Golden/Boundary/Cranbrook TSAs and TFL 8)
$113,000 - repression spacing in Invermere TSA
$129,000 - Backlog reforestation rehabilitation in Kootenay Lake TSA
$25,000 - PROBE plot remeasurements in Kootenay Lake TSA
$369,190 remained for reallocation with the decision made for it to be distributed to Cranbrook TSA ($99,680), Boundary TSA ($98,570) and TFLs 8
($31,380),14 ($39,880) and 23 ($99,680) based upon the AAC ratio utilized for the original data submissions.

Final allocation recommendations by MU are as follows:

Cranbrook TSA	$626,875 (99%)
Invermere TSA	$799,480 (106%)

Golden TSA	$433,200 (92%)
Revelstoke TSA	$331,000 (102%)
Arrow TSA	$430,229 (80%)
Boundary TSA	$613,923 (98%)
Kootenay LK TSA	$690,250 (103%)
TFL 3	$229,670 (365%)
TFL 8	$202,880 (103%)
TFL 14	$240,295 (96%)
TFL 23	$605,890 (96%)
TFL 55	$113,700 (80%)
TFL 56	$134100 (80%)

District allocations range from ~ 92% - 104%, of the suggested FRBC allocation levels, with only Revelstoke TSA and TFL 3 exceeding the 120% recommended funding ceiling due to entrenched legal backlog treatment needs.

The base RMP access data base(80% level) must now be amended upwards to reflect the additional allocations. Where activity specific amendments have been made I will make the necessary adjustments at the region. The non specific allocation of $369,190 to TSAs/TFLs are to be directed to activities as guided by the TYPE I analysis and/or achievement of FRBC performance targets.

I will be in contact with Cranbrook/Boundary/TFL 8/14 and 23 shortly to try and secure what additional activity goals will be undertaken. No further input is needed at this time from the other mgm't units.

Stakeholder Comments

The following are comments received by Industry (forest licensees) following the circulation of the technical components of the draft RMPs.

Sustainable Harvest Strategic Objective:

Input from Licensees was obtained during field visits and meeting prior to the writing of the draft RMP. No further comment was received from stakeholders.

Enhancing Environmental Values:

Atco Lumber Co. Ltd.: telephone discussion with MELP staff to determine whether the company's priority watersheds were included in the 20 % recommended watersheds. It was determined that the 2 watersheds in question were recommended for restoration and Atco had no further concerns.

Evans Ltd.: The following memo was received by email.

Memorandum
To: Kathy Eichenberger
CC:
From: Nicole Bauche
Date: 9/21/1999
Re: EEV (a.k.a. WRP) Resource Management Plan Comments
I have finished reviewing the plan entitled "Forest Renewal BC Strategic Objective #2, Enhance Environmental Values, Resource Management Plan", dated 99/09/10.
In general, I thought the text was well written and presented. The procedures used to develop the base map were clear to follow.
I would like to present a few comments on behalf of Evans Forest Products Limited, as follows:
The priority list developed was prepared using existing information on fish distribution and I think there should be some recognition of the lack of information on species/distribution in Golden (and other areas?). In Golden, for example, the following areas have not been sampled (or have little sampling/distribution info): Bluewater Creek, Waitabit Creek, Blackwater Ridge and Succour Creek (known spawning area for Kokanee), Blaeberry River (known Bull Trout but limited distribution info) and the West Bench. There is limited fish distribution information for Bush River and Sullivan River, though we know that there is important Kokanee spawning and Bull Trout spawning habitat (little info on the location of these important spawning areas or on fish distribution). The concern I have is that the places where there is little, or no, fisheries information (northern part of the Nelson Region) will inevitably "fall through the gaps" in the prioritization process.
The following areas have been sampled in Golden over the past 3 years, (I don't know if this information was taken into account in the preparation of this plan, as I was unable to get a hold of Cory Legebokow prior to the submission of the plan):

Valenciennes River (sampled by Interior Reforestation, July 97)-Kokanee spawning at lower reaches and suspected bull trout.
Blaeberry River (sampled by Interior Reforestation, July 97)-Bull Trout. Limited distribution information.
Morgan Creek (sampled by Silvatech, May 98)- Bull trout limited to lower reaches.
Gold River and Bachelor Creek (sampled by Silvatech, May 98)- Bull trout limited to lower reaches in Gold River.
West Columbia (sampled by Silvatech, May 98)-Mayvill Creek has Bull Trout and Rainbow Trout, Carrol Creek has abundant Bull trout populations.
Kootenay River (sampled by Silvatech, August 99)- Westslope Cutthroat (most widely distributed), Rainbow Trout, Bull Trout, and other non species of concern.
note that Morgan, Gold River, West Columbia are all tributaries to the Kinbasket Lake.
Game Creek and Kinbasket River were also sampled in 96/97 and no significant fish populations were found.
Note that we do have one domestic watershed in Golden, and that is Hospital Creek. It has 16 licensed water users, which would qualify as a Water Rank Code "H".

Thank you for the opportunity to review the draft RMP. Please contact me if you have any questions.

Nicole Bauche, RPF
FRBC Coordinator
Evans Forest Products Limited
250-344-8820
□ *HYPERLINK mailto:nbevans@redshift.bc.ca* □□*nbevans@redshift.bc.ca*□

Confidential

□ *TIME \@ "MMMM d, yyyy"* □*September 21, 1999*□

MELP staff discussed with the Evans representative the issues raised in the memo and made some revisions to the EEV database and GIS map accordingly. The will need to be some further discussion with the licensee at, or prior to, the district planning unit meeting(s).

Wyndell Box Lumber Ltd.: Ron Piva of Wyndell Box Lumber expressed concern over some inaccuracies in the watershed unit priorization mapping. He also advised that 2 other licensees neighbouring licensees had similar concerns. MELP committed to looking into the problem and meet at a later date to discuss any outstanding issues. It was determined that a map layering problem caused the majority of Wyndell Box's concerns; this problem has since been corrected. MELP still intends to meet with the licensee to discuss any outstanding issues.

Crestbrook Industries Ltd.: CFI sent a detailed email containing questions and concerns regarding the draft RMP. These comments were received later than anticipated and therefore were not addressed

within the timeframe of the finalization of the RMP. MELP will meet with CFI to resolve outstanding issues.

Strengthening Sustainable Forest Management:

2 phone calls were received by Licensees (Atco Lumber Co. Ltd. and Pope & Talbot Ltd.) seeking clarification regarding the SSFM RMP process and t0 determine whether their priorities were captures within the SSFM project list. It was ascertained that their respective priorities were captured. Identifying requesting additional projects that may have been omitted from the RMP project list.

SSFM Component Priority Projects at Risk

Forest Renewal BC's key target for the SSFM strategic objective is to identify and address key gaps or weaknesses in knowledge for sustainable forest management. Specifically, knowledge gaps will be addressed to help improve future TSRs and LRMPs.

The following projects have been identified by the ministry as high priorities for the achievement of Forest Renewal BC's objective. These projects may however be at risk for funding support by MYA licensees based upon historic evidence and steering committee discussions. The reasoning for non support generally falls into one of two categories:

- project is regional in nature with no direct benefit to the MYA licensee.
- project value, if undertaken, would leave little funding to carry out other licensee priorities.

Priority projects include:

Tier 1

- **TSR/MoF–13** - ~$250,000 based upon $2,000/landscape unit (done in house) to inventory potential OGMAs. Allows for more accurate TSR predictions and KBLUP IS biodiversity requirements.
- **TSR/MoF-15** - ~$100,000 for Spacial explicit/adjacency analysis pilot for Golden or Arrow forest district. Consistent with Golden AAC rationale and spatial timber supply modeling project recommendations. Supports KBLUP timber target and land use planning timber target initiative.
- **LUP/MoF-1** - ~$20,000 to develop data library. Would create and maintain web site for data storage and update in addition to allowing access for appropriate users. Can be used as a tool to identify informational gaps.
- **TSR/BCE-2** - $ 40,000 to assess the ecological appropriateness of the percentages in table 20 and the maximum interpatch distance for stand level biodiversity. provided in the Biodiversity Guidebook / Determining actual percentages reserved as WTP's i.e. current practice.
- **TSR/BCE-1** - $ 60,000 for Stochastic Disturbance on the Non-Contributing Landbase. Building on previous work completed in 1998 the ecological appropriateness of table 20 and maximum interpatch distance outlined in the BGB will be assessed.
- **TSR/BCE-4** - $ 30,000 for Evaluating the effect of Seral stage distribution on amount and timing of peak flow in watersheds with respect to fish habitat.
- **LUP/BCE-35** - $ 140,000 a year for 5 years for Old Growth Structural Attributes Assessment - Identification and classification of old growth structural attributes by biogeo subzone variant to be used in L.U planning and OSP recruitment.
- **TSR/BCE-3** - $ 50,000 for Assessing Representiveness at Variant vs Site Series (surrogate) Using a number of selected Landscape Units, OGMA's will be deployed at the variant level and also at the site series surrogate level (using the proportionate rule). An assessment will then be conducted to determine the risk to biodiversity if certain elements such as plant or animal species/communities are not adequately represented at the variant level. In addition a timber supply impact analysis will be conducted.

Tier 2

- **TSR/MoF-2** - ~$250,000 to complete year 3 of 3 year VRI Phase 1 contract for Golden TSA. Identified as an informational need by chief forester. Historic funding agreement with Forest Renewal BC to cost share 60/40 with ministry funding project to 60% level.
- **TSR/MoF-1** - ~$250,000 for VRI Phase 2 sampling. Allows for adjustments of the new VRI estimates and provides statement of reliability/accuracy of the estimates. For KBLUP IS it would be the basis of compliance monitoring and reports.
- **TSR/MoF-4** - ~$100,000 for PSP remeasurements located within all 6 forest districts. Identified as a high priority issue by the chief forester.
- **TSR/MoF-10** - ~$150,000 for non recoverable loss pilot project in Kootenay Lake forest district. Project to identify process by which to determine reliable OAF adjustment factors for Armellaria root rot.
- **LUP/BCE-42** - ~ $ 100,00 each year for 2 years Environmental Supply Review - HSI/SIMFOR analyses to develop 5 HSI's to be used in SIMFOR modelling for LU planning - intention is to develop one additional ungulate HSI coupled with HSI's for Interior dependent species.
- **LUP/BCE-5** - ~ $ 50,000 for Domestic Watershed Mapping Attributes to construct an attribute database for the mapping which would allow users to directly access information about the watershed such as water licensing information.

Appendix 3 - Sustainable Harvest - Access Data Base (Includes Current Fire and Pest and Forest Health Maintenance Recommendations)

see electronic attachment

Appendix 4 - Sustainable Harvest - Type I Analysis Summaries

available upon request

Appendix 5 - Enhance Environmental Values – Access Data Base

(see electronic attachment)

Fish Species/Stocks of Concern in the Kootenay-Boundary Region

Fish Ranking Descriptions

Water Ranking Descriptions

Tiers for Ranking Watersheds

Community Watersheds Serving Large Communities

Status of Work

EEV-RMP Mandatory Data Report

EEV-RMP Mandatory Data report (Ranking Tiers)

Recommended Watersheds - available upon request

RMP Consultation

June 28/29 - FRBC/MoF/MELP/Proponent RMP development process introduction meeting. Followed same format as June 8th Interagency meeting.

SO Steering committee's established (EEV/SSFM) - first meetings July 19/20th.
EEV SC members include: Kathy Eichenberger, Herb Tepper, Bernie Peschke, Al Coombs, Pat Cutts, Hak Nielson and Ethan Askey.
SSFM SC members include: Bernie Peschke, Mike Geisler, Cal Hauk; Kathy Eichenberger, Al Sabotin, Gerry Fox, Doug Lang, Dave Brown, Angus Graeme

Notice to TFL licensees (July 27th) re: RMP submission requirements, timing and format.

Notification to Utzig/Bergenski re: RMP process for SSFM by Cathy Scott-May (July 25th)

July 28th forwarded MoF SSFM potential project listing to districts/TFLs for review and input prior to submitting to Cathy Scott-May

August 10th meeting with Rob Gay, Bernie Peschke and Kathy Eichenberger. Status update and discussion of upcoming timelines/needs etc...

August 25th SSFM steering committee meeting. New members now include Greg Utzig and Rachel Holt. At length discussion on RMP communication strategy leading to position for FRBC consideration.

August 26th EEV steering committee meeting.

August 31st SH steering committee meeting. Members include: Bernie Peschke, Mike Geisler, Brian Simpson, Bruce Fraser, Ivan Listar, Sue Crowley, Marci Belcher and Lyle LeClair.

September 1st meeting with Rob Gay, Bernie Peschke and Kathy Eichenberger. Status update and discussion of ground rules and MYA funding legality issue..

September 16th meeting with Rob Gay, Bernie Peschke, Kathy Eichenberger and Cathy Scott-May. Status update, discussions on MYA funding commitment vs priority recommendation implementation, further refinement of ground rules and communications strategy.

September 17th SSFM SC meeting. Peter Affleck in attendance. Potential project listing discussed with result being to group projects in one of three tiers or priority groupings as the recommendations listing. Draft project listing circulated to all licensees and districts for review and comment by September _____.

Appendix 6 - Strengthening Sustainable Forest Management

Criteria	Criteria	Weighting Factors
Range of values the project positively supports (to be filled in by the agency which first identified the project)	Timber (Y/N)	These first criteria will not be assigned weighting factors. Instead they will be used after we define the short-list of projects to determine which support values other than timber and environment. Given that we don't have detailed criteria to determine to what degree the project might support the management of those other values, we felt it would not be appropriate to assign weighting factors.
	Environmental values (Y/N)	
	Tourism/recreation (Y/N)	
	Range (Y/N)	
	Cultural/archaeological (Y/N) Mining (Y/N)	
Project Type	Inventory (Y/N) Analytical Tool (Y/N) Pilot Project (Y/N)	The project type criteria will not be assigned weighting factors as this has more to do with funding allocation than technical evaluation of the projects.
MOF Criteria		
Degree of change to Timber Availability	change to cubic metres: 2 - significantly changes timber availability + or - 1 - moderately changes timber availability + or - 0 - minimal change (+/-) or unknown	Degree of change (volume) will be assigned 15 of the 100 points for MOF/timber criteria with a significant change getting 15 points, moderate change is 10 points and minimal or unknown is 0 points.
	change to cubic metres (number if reasonable basis for estimation exists)	This will not be assigned a weighting factor as not all projects will have this information included.

Change in costs/revenue to industry and/or province	change in production costs/revenue: 2 - significantly reduces costs 1 - moderately reduces costs 0 - minimal change (+/-) or neutral effect -1 - moderately increases costs -2 - significantly increases costs	The total weighting for change in costs will be factors of 7 with significant reductions being +7 and significant increases being -7.
Timeframe of changes	short term (Y/N)	2 points
	long term (Y/N)	2 points
Geographic Extent	Boundary (Y/N)	each location is worth 2 points
MOF Criteria		Weighting Factors
	Arrow (Y/N)	
	Kootenay Lake (Y/N)	
	Cranbrook (Y/N)	
	Invermere (Y/N)	
	Columbia (Revelstoke) (Y/N)	
	Columbia (Golden) (Y/N)	
Reliability of Current info	3 - high 2 - medium 1- low	high = 5, medium = 15 and low=25
Sensitivity to Base Case	3 - high 2 - medium 1 - low	high=25, medium=15, low=5

Reliability/ Significance to Provincial Strategic Plans	3 - high 2 - medium 1 - low	high=10, medium=5, low=0
Overall MOF Rating	Professional judgment as to potential impact of project (to timber relative to integrated resource mgmt goals) 3 - high 2 - medium 1 - low	overall ratings will not be assigned a weighting factor as using the weighting process will be a check on the overall ratings, e.g. if the weighting factors demonstrate that a project is not a high priority but the overall rating indicates it is, then the project is flagged for MOF staff to revisit the project and determine if a recommendation should be made to the committee to include it in the list
MELP Criteria		Weighting Factors
Risks to Environmental Values	General biodiversity 5 - significantly reduces risk 4 - moderately reduces risk 3 - minimal change (+/-) or neutral effect 2 - moderately increases risk 1 significantly increases risk 0 - unknown	The weighting for risk to biodiversity will be: significant reductions in risk = +15 and significant increases in risk = -15...moderate changes in risk will be +/-10 and minimal or neutral effect = 5
	Red and Blue (1-5 scale as above)	significant = 10, moderate = 5 and neutral = 1 point
	Species/Ecosystem Specific mgmt (outside R&B) (1-5 scale as above)	significant = 10, moderate = 5 and neutral = 1 point
	Water quality, quantity, timing of flow (1-5 as above)	significant = 10, moderate = 5 and neutral = 1 point
	Air quality (1-5 scale as above)	significant = 10, moderate = 5 and neutral = 1 point
Consequence	Severity of consequence to env. value of not doing project scale of 0-20 where 0 - no consequence 20 - highest consequence to env. value of not carrying out the project	a scale of 0-20 will be assigned for each project with 20 being the highest consequence of not carrying out the project, 0 is no consequence if the project is not undertaken
MELP Criteria		Weighting Factors
Geographic Extent (best description of impact)	Ecosystem (Y/N)	5 points
	Ecosection (Y/N)	4 points
	Biogeo (Y/N)	3 points
	Landscape Unit (Y/N)	2 points
	Site specific (Y/N)	1 point
Reliability of	3 - high	high = 5, medium = 3, low = 0

Result/current info	2 - medium 1 - low	
Timeframe for anticipated impact	short term (Y/N)	2 points
	long term (Y/N)	3 points
Overall MELP rating	Professional judgment as to potential impact of project (to env values relative to integrated resource mgmt goals 3 - high 2 - medium 1 - low	overall ratings will not be assigned a weighting factor as using the weighting process will be a check on the overall ratings, e.g. if the weighting factors demonstrate that a project is not a high priority but the overall rating indicates it is, then the project is flagged for MELP staff to revisit the project and determine if a recommendation should be made to the committee to include it in the list
Criteria	Description	Weighting Factors
Estimated costs of project	Dollars (use spaces, no commas, no decimal pts e.g. 50 000)	costs of projects will not be assigned weighting factors as it has more to do with funding criteria
	# of MOF staff required (FTE)	
	# of BCE staff required (FTE)	
	# of other agency staff required (FTE)	
	# of outside professionals required (contractors/licencees) (FTE)	
Timing	Requires coordination with other projects for proper sequencing (Y/N)	Yes = 0, No = 10
	If yes to above, what other projects are involved (project numbers)	no weighting assigned
	Able to complete the project prior to applicable FEDP and/or TSR deadline? (Y/N)	Yes = 20, No = 0
Duration of project	1 year (ST) 2-3yrs (MT) >3yrs (LT)	ST = 25, MT = 15, LT = 5
Stand Alone project	Does the project/phase require future $ to be useful? (Y/N)	N = 0, Y=15
	Is the project a driver for subsequent data needs? (Y/N)	Y = 5, N=0
Complexity	Is the methodology broadly supported (e.g. known, proven procedures vs. something new) (Y/N)	Y=5, N=0

	Are there unresolved/conflicting policy issues which must be addressed to complete the project and/or implement the result? (Y/N)	Y=0, N=10
	Is there need for multi-agency and various levels of government involvement? (Y/N)	Y=0, n=3
	Is there need for public/community group involvement? (Y/N)	Y=0, N=3
	Does the expertise exist (Y/N)	Y=2, N=0
	Is the expertise likely available? (Y/N)	Y=2, N=0
	Other (specify)	no weighting to be assigned
Overall do-ability rating	Professional judgement (H/M/L)	overall ratings will not be assigned a weighting factor as using the weighting process will be a check on the overall ratings, e.g. if the weighting factors demonstrate that a project is not a high priority but the overall rating indicates it is, then the project is flagged for people to revisit the project and determine if a recommendation should be made to the committee to include it in the list
Addressing obstacles for projects rated as H impact and M or L do-ability	Major obstacle(s) - use criteria codes from this table or describe other factors	The remaining categories will not be assigned weighting factors as they are aspects to address obstacles should a project be deemed to be very important yet there are concerns about the ability to actually undertake and complete it.
	Likelihood of overcoming major obstacle(s) within one year (H/M/L)	
	Likelihood of overcoming major obstacle(s) within two years (H/M/L)	
	Is there an alternative method/project which could be used to address the basic need/issue (Y/N)	
	Describe alternative method/project	
	Would the issue be better addressed through a provincial initiative? (Y/N)	

Table 2: Potential Projects Resulting from a Review of the TSR Processes

The purpose of this table is to identify potential projects which have been identified as gaps in the TSR processes from documents which are directly associated with the AAC determination process. This table also seeks to cross-reference such projects with delivery needs for the KBLUP-IS. As some of these source documents may identify issues as opposed to projects, they will only be included if a reasonable project description can be generated which includes basic methodology that is deemed to be "do-able".

Note: the column which asks for an assessment of current relevancy is a coarse level assessment which involves a cross-check with ***Table1 - Current Projects Underway*** and the professional judgement of the few people who are charged with this initial work. This professional judgement will receive wider review as this initial work is shared and the evaluation of current relevancy can change - the intent is only to provide a first cut at trimming the list of potential projects.

Projects must be assessed as to their "Regional Significance". This is a coarse level filter that assesses the geographic implications of the project - e.g. opportunities to apply lessons learned elsewhere in the region and/or opportunities for linkages between projects occurring elsewhere in the region. In some cases it may imply a priority rating, such as when a project is so significant for one TSA, TFL, Forest District, etc. that it should be considered regionally significant.

Project Number (i.e. TSR/MOF-1, TSR/BCE-1)	Project Name	Description of Project (must include basic methodology to demonstrate it as a "do-able" project)	Location (Forest District or other)	Currently Relevant? (Y/N) (Y does not imply it is a priority)	Rationale for Relevancy Rating if No	Supports delivery of KBLUP-IS Y/N	Description of linkage with KBLUP-IS if Yes	Regional Significance H/M/L	Rationale for Rating of Reg. Sig.
TSR/MOF-1	VRI Phase 2 Sampling	VRI Phase 2 ground sampling to apply unbiased adjustments to the newly completed VRI Phase 1 classification of the Golden TSA. All methodology established to RIC standards. The MOF has the staff and expertise to deliver under their current mandate.	Golden TSA Columbia District	Y		Y	Basis for reports, compliance monitoring	H	Similar to the volume audit data completed for all management units, this data allows for the adjustments of the new Phase 1 VRI estimates and provides a statement as to the reliability/accuracy of the estimates (CF - N/A). Possible piggy back for monitoring regenerating stands as per TSR 2 instructions. Estimated cost $250,000. CF - H
TSR/MOF-2	VRI Phase I	Year 3 of 3 - Golden TSA VRI	Golden TSA	Yes		N		H	New data in support of TSR $250,000 CF - I

TSR/MOF-3	VRI Phase I	Completion of TFL 3 VRI	TFL 3	Yes		N		H	New data in support of TSR Previously funded but project incomplete. Rec. no additional funds. CF -N/A
TSR/MOF-4	PSP Measurements	Re-measurements of permanent sample plots. All standards and methodology in place, and full efficient delivery by MOF staff. Randomly established therefore captured mixed stands and partial cuts as well.	Nelson Region DAR 28 DBO 17 DCB 4 DGO 13 DIN 6 DRE 2	Y		N	Indirect benefits (more reliable/ accurate inventory	H	This data supports everyone/all management units/TSRs and is ecologically based. Estimated cost $100,000. CF - H
TSR/MOF-5	PSP Measurements	Ecological Classification of backlog established PSP's. All standards and methodology in place, and efficient delivery by MOF staff.	Nelson Region	Y		N	indirect	H	The correlation to provide the ecological link to the PSP's. This is required as it allows for the proper modeling of growth and yield data. Better information to enable better forest management that supports everyone. Estimated cost $15,000. CF - N/A
TSR/MOF-6	PSP Measurements	Establishment of permanent sample plots. All standards and methodology in place, and efficient delivery by MOF staff.	Nelson Region	Y		N	indirect	M	To increase the PSP data pool on an ecological basis where the information is weak or lacking(eg: deciduous/mixed spp stands). Better information to enable better forest management that supports everyone. Estimated cost $60,000. CF - N/A
TSR/MOF-7	Volume and Decay	Completion of sampling of ICH/ESSF Spruce and Balsam for decay verification for possible adjustment for TSR 3.	Golden TSA	Yes		N		M	ICH sampling is approximately 90% complete in the ICH and approximately 50% complete in the ESSF. Unfunded in 99/00 CF - N/A.

TSR/MOF-8	Operability issues	Evaluate / update: A) current operability line B) Terrain stability mapping / ESA C) Low site / low "quality" stands including hi elev./CwHw and dec/conifer mix Stands/PFT (priority areas only)	Nelson Forest Region	Y		N		H	AAC is very sensitive to changes in operable landbase in many TSAs; projects will provide a more accurate data base for TSR. Estimated cost $ 30,000 for A. $30,000per MU for B. C - To collect field data on the performance of hi elevation plantations to determine if they are being modelled correctly and if they will grow a merchantable crop in a reasonable time frame. Estimated cost $50,000 X 2 years.
TSR/MOF-9	Wildlife tree patches	Mapping and evaluation of WTPs to determine if they will be: A) abandoned B) harvested in future C) contributing to OG targets	Nelson Forest Region	Y		N			$30,000
TSR/MOF-10	Non-recoverable losses	Update the estimated losses due to NRLs/OAF 2 and root rots in particular by …(need further details from Don Norris)	Nelson Forest Region	Y		N		H	NRLs/OAFs have a large impact on AAC and better methods and data are required to provide reliable estimates. Pilot one MU in 2000/01 Estimated costs $150000
TSR/MoF-11	Non-recoverable losses	OAF 1 study to localize factors used in adjusting G&Y functions for irregular stocking	TFL 23	Y		N		H	Utilize new technology CASI (Compact Airborne Spectrographic Imager) to determine OAF 1 values for TFL. $50,000
TSR/MOF-12	ECAs for watersheds	GIS project to map and determine ECAs for watersheds will allow them to be modelled better in TSR and provide more realistic harvest schedules. (Continuation/enhancement of project currently underway by Larry Price)	Nelson Forest Region	Y		Y	More accurate mapping determination of actual ECA for watersheds	H	Modelling ECA in the TSR model (FSSIM) is not handled easily. Providing the model with better data will produce more reasonable results.$20,000

TSR/MOF-13	OGMAs	Inventory potential OGMAs, (which will also require some updating of forest cover inventories in National Parks, particularly in Golden, Revelstoke and Invermere TSAs).	Nelson Forest Region	Y		Y	Consistent with the direction of KBLUP-IS Biodiversity requirements.	H	Timber supply is more accurately predicted when OGMAs are mapped. $700,000
TSR/MoF-14	Partial Harvest Inventory	Ensure post harvest inventory labels are correct and reflect residual stand stocking	DAR DCO	Y Y				H H	
TSR/MoF-15	Spacial explicit/adjacency analysis	Continue with spacially explicit analysis consistent with recommendation in Golden AAC rationale and Spatial Timber Supply Modeling Project recommendations	DAR DGO	Y		Y	Supports KBLUP timber target as well as LU planning timber target initiative	H	$100,000 for pilot.
TSR/MoF-16	SIBEC Sampling	Site index correlation to Biogeoclimatic Ecosystem Classification	TFL 23	Y		N		H	New information tool to better assign site index to older stands based on ecological units. Data will be used for TFL TSR. $800,000
TSR/MOF-17	SIBEC Sampling	Site index assignments to forest inventory polygons needs to be completed. Providing BEC based estimates of site index and using the TEM base.	TFL 14	Y		Y	Basic information required to assess timber supply implications of KBLUP -IS and landscape unit planning. Better assignment of site index will support all TSR's	H	continuation of FRBC investment. Methodology for SIBEC was highly rated as a good and good data for prov. Data set.
TSR/MoF-18	Growth and Yield strategic plan	Develop a strategic G&Y plan for TFL 14	TFL 14	Y		Y	Basic information required to assess timber supply implications of KBLUP -IS and landscape unit planning.	M	To support TSR and better land management on TFL 14
TSR/MOF-19	OGSI validation	Establish field based plots in regenerated stands to see if the increases in sit productivity suggested by the old growth site index studies are fully warranted.	Columbia District (Nelson Region)	Yes		No		H	TSR showed that OGSI adjustments could result in significant increased in timber supply over the mid and long term (as much as 20%) It is very important that timber supply modelling correctly accounts for site index in older stands. $10,000

TSR/MOF-20	Forest Dynamics	Determine the dynamics in non contributing stands (inoperable stands) . Compare past and present inventories and review inoperable areas for catastrophic pest and fire events.	Columbia District (Nelson Region)	Y		N		H	Current TSR modelling attempts to achieve requirements for the Old seral age account for biodiversity from the non-contributing. It also assumes the non-contributing ages. This is an optimistic approach that should be made more realistic to help provide better timber supply forecasts. ($5,000)
TSR/ MOF-22	Riparian accounting.	Come up with a better method to determine riparian habitat using existing inventories and stream classification.	Columbia	Y	M				Accounting for riparian areas in the last Golden and Revelstoke TSRs was faulty. Development of better methods would produce more accurate timber supply forecasts. ($5000)

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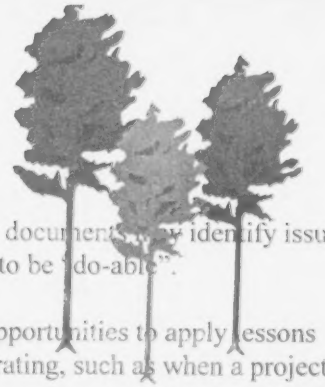

Table 3: Additional Potential Projects Arising from KBLUP-IS

This table seeks to identify projects that support the delivery of the KBLUP-IS ***in addition to*** those identified in Table 2. As some of the KBLUP-IS source documents may identify issues as opposed to projects, they will only be included if a reasonable project description can be generated which includes basic methodology, which is deemed to be "do-able".

Projects must be assessed as to their "Regional Significance". This is a coarse level filter, which assesses the geographic implications of the project - e.g. opportunities to apply lessons learned elsewhere in the region and/or opportunities for linkages between projects occurring elsewhere in the region. In some cases it may imply a priority rating, such as when a project is so significant for one TSA, TFL, Forest District, etc. that it should be considered regionally significant.

Project Number (i.e. LUP/MOF-1, LUP/BCE-1)	Project Name	Description of Project (must include basic methodology to demonstrate it as a "do-able" project)	Location (Forest District or other)	Potential involvement in future TSRs Y/N	Regional Significance H/M/L	Rationale for Rating of Regional Significance	Additional Comments
LUP/MoF-1	Data Library	For all resource inventory projects: ♦ Identify standards and format for digital data entry. Ensure consistency in data entry for corporate and non-standard/localized data. ♦ Develop format and maintain meta data. ♦ Creation and maintenance of a website for data storage and update. ♦ Ensure access for appropriate users.	All Region	Y	H	♦ Secures investment in collection and access of resource inventory data. ♦ Provides information on data confidence and appropriate use of data for various planning applications. ♦ Will provide information for: ⇒ Identifying information gaps. ⇒ Prioritization of inventory funding expenditures	$20,000

LUP/MoF-2	Data Processing	Process resource inventory data into ***"resultant data base"*** required for analytical tools.	All Region	Y	H	Resultant data coverage for use in TSR, LU, FD planning and implementation and monitoring initiatives. Will provide common, project oriented database for analytical tools. ♦ FSSIM ♦ Geomedia ♦ Arcview ♦ PCRS	6 Forest Districts @ 15,000/unit= $90,000

LUP/MoF-3	Planning/Analytical Tools linkages project	Pilot project to demonstrate linkages of planning hierarchy and identification of appropriate analytical tools	Kootenay Lake Forest District ♦ Currently undergoing TSR 2 ♦ Currently one of two LU pilot initiatives in the Province. ♦ Stand level /Landscape unit environmental accounts model being piloted in West Arm Demonstration Forest.	Y	H	♦ Demonstrate linkage of TSR 2, Landscape unit planning and FDP processes. ♦ Identify/demonstrate appropriate analytical tools for multiresource analysis at various planning levels.	Generate computer harvest systems blocking for entire district which: ♦ Incorporates old seral mapping. Existing harvesting and FDP's. $40,000 Load FSSIM and Simfor data sets for strategic level analysis. $25,000 Load Atlas and Simfor data sets for selected priority LU's $10,000 Link stand level environmental accounts model in West arm Demonstration Forest to Atlas $10,000 Run strategic and tactical level analysis, interpret outputs, write report. $25,000 Total projected cost. $110,000

LUP/MoF-4	Visual Landscape Inventory	Methodology in place ♦ Field proofing required ♦ Linked to TRIM					Columbia Kootenay Lake Arrow Boundary Invermere Total $40,000
LUP/MoF-5	AOA Upgrades	Biophysical assessment of suitability over the last 10,000yrs. Computer assisted model (Eagle Vision) has been piloted in St. Mary's LU.	All Districts (except Boundary)	N	H	First Nation want and existing info is weak	$300,000
LUP/MoF-6	AOA Upgrades	Biophysical assessment of suitability over the last 10,000yrs. Computer assisted model (Eagle Vision) has been piloted in St. Mary's LU.	Boundary District	N	H	First Nation want and existing info is weak	$50,000
LUP/MoF-7	Biodiversity Monitoring plan	Develop Biodiversity Monitoring Plan as part of Development plan and LU planning process. Linkage with BCE-42	Region		H	May be one the key components for evaluation of successful deliver of KBLUP -IS and Mac Strategy	Part of Mac strategy
LUP/MOF-8	Planning Tools Implementation and Operational review	Obtain operational feedback on (PCRS) planning tools implementation, and develop. ♦ New reports ♦ Enhancements	All Region	Y	H	Provides for maintenance and enhancement of KBLUP, FPC and LU implementation and monitoring tool at District level.	$25,000

Project Number (i.e. TSR/MOF-1, TSR/BCE-1)	Project Name	Description of Project (must include basic methodology to demonstrate it as a "do-able" project)	Location (Forest District or other)	Currently Relevant? (Y/N) (Y does not imply it is a priority)	Rationale for Relevancy Rating if No	Supports delivery of KBLUP-IS Y/N	Description of linkage with KBLUP-IS if Yes	Regional Significance H/M/L	Rationale for Rating of Reg. Sig.
TSR/BCE-1	**Stochastic Disturbance on the Contributing/Non-Contributing Landbase and Protected**	Reviewing existing data from a variety of sources, including data collected in protected areas to estimate occurrence and pattern of stand initiating disturbance in contributing/ non-contributing and protected areas.	Provincial forest and provincial and federal parks	Y	Currently it is o assumed that the non-contributing forest landbase ages indefinitely.	Y	KBLUP-IS states that OGMAs/connectivity corridor and patch size should be implemented regionally. These management objectives are directly influenced by assumptions made with respect to disturbance regimes in non-contributing/contributing and PAs.	H	The current assumption that non-contributing continues to age indefinitely is incorrect and leads to an incorrect deduction of amount of old Seral present at any given time.
TSR/BCE-2	**Assessing the ecological appropriateness of:** **a) the percentages in table 20 (BGB)** **b) the maximum interpatch distance** **c) relationship of (a) & (b) to CWD** **Determine actual percentages reserved as WTP's (i.e. current practice).**	Building on previous work completed in 1998 the ecological appropriateness of table 20 and maximum interpatch distance outlined in the BGB will be assessed. This will be accomplished by reviewing available information from the Nelson Forest Region and other jurisdictions with similar ecosystems. A random sample of SP's will be used in order to establish what current management is.	Nelson Forest Region	Y		Y	KBLUP IS includes language respecting the implementation of stand level biodiversity components.	H	It is known that very little if any empirical data was used when developing the percentages found in table 20 or in establishing the maximum interpatch distance. Better information currently available will provide the empirical support for the ecological appropriateness of the measures employed to manage for biodiversity at the stand level.

TSR/BCE-3	**Assessing Representiveness at Variant vs. Site Series (surrogate)**	Using a number of selected Landscape Units, OGMA's will be deployed at the variant level and also at the site series surrogate level (using the proportionate rule). An assessment will then be conducted to determine the risk to biodiversity if certain elements such as plant or animal species/communities are not adequately represented at the variant level. In addition a timber supply impact	Nelson Forest Region	Y		Y	KBLUP provides for representation as per the Biodiversity Guidebook at the site series (surrogate) level. The surrogate for site series was the so-called proportionate rule for amount of old seral to be managed for in the contributing and non-contributing portions of the landbase. The proportionate rule was used for the timber supply impact analysis for the KBLUP	H	There is significant uncertainty with respect to the risk to biodiversity inherent in having representation applied at the variant level as opposed to the site series (surrogate) level.
TSR/BCE-4	**Evaluating the effect of seral stage distribution on amount and timing of peak flow in watersheds with respect to fish habitat**	An evaluation of existing data and interpretations from various jurisdictions to determine what if any watershed threshold harvest levels are needed to ensure that associated increases in peak flow as well as changes in timing of peak flow do not harmfully alter fish habitat.	Nelson Forest Region	Y		N		H	Currently harvest levels are factored in the TSR for community and domestic watersheds. This is not the case for important fish streams and may result in adverse impacts to fish habitat.

Appendix 7 - Forest Recreation Recommendations

Regional Site/Trail Management Activities

Obligations for Public Safety and Environmental Protection at Recreation Sites and Trails

	Plan Goals (# sites (S) and Trails (T)					2000/01			Funding Source
	2000/01	2001/02	2002/03	2003/04	2004/05	Funding $(000)	Average Unit Cost $	Priority[1]	Ministry Licensee FRBC
Inspections (# of Sites)	234	230	230	230	230	0	?	H	BCFS
Inspections (Km of Trail)	748	748	748	748	748	0	?	L	BCFS
Maintenance Service Units Sites (# of Sites)	234	230	230	230	230	180249	770/site	H	BCFS
Maintenance Service Units Trails (Km of Trail)	748	748	748	748	748	0	NA	L	User Groups
Site Maintenance Supplies (# of Sites)	234	230	230	230	230	50000	213/site	H	BCFS
Trail maintenance Supplies (Km of Trail)	748	748	748	748	748	0	NA	L	User Groups

Recreation Site/Trail Management Activities

Rehabilitation of Recreation Sites/Trails

	Plan Goals (# sites (S) and Trails (T)					2000/01			Funding Source
	2000/01	2001/02	2002/03	2003/04	2004/05	Funding $(000)	Average Unit Cost $	Priority[1]	Ministry Licensee FRBC
Site plans (#)	6	6	6	6	6	0	NA	M	BCFS
Trail plans (#)	12	12	12	12	12	0	NA	M	BCFS
Site Restoration (# of sites)	6	6	6	6	6	125000	20000/site	M	E Team, HRDC, Downie Bonus, Col Basin Trust
Trail Restoration (km of trail)	50	50	50	50	50	125000	2500/km	M	E Team, HRDC, Downie Bonus, Col Basin Trust
Structure restoration/replacement (# of sites)	234	230	230	230	230	37000	157/site	M	BCFS
Structure restoration/replacement (km of trail)	50	50	50	50	50	0	NA	M	E Team, HRDC, Downie Bonus, Col Basin Trust

Recreation Site/Trail Management Activities

Development of Recreation Sites/Trails

	Plan Goals (# sites (S) and Trails (T)					2000/01			Funding Source
	2000/01	2001/02	2002/03	2003/04	2004/05	Funding $(000)	Average Unit Cost $	Priority[1]	Ministry Licensee FRBC
Site plans (#)									
Trail plans (#)									
Site Construction (# of Sites)									
Trail Construction (km of Trail)									
Site Structures (#)									
Trail Structures (#)									
Site Studies[2] (#)									
Trail Studies (#)									

NOTES:

1 Priority rating: Rate high, Medium, Low

2 Include specific studies/plans that need to be done to support this program area. Clearly identify in the RM and the type of study/plan and realistic needs for 2000/01. Indicate the level of funding required for subsequent years to continue these projects (where necessary) and add new projects.

Appendix 8 - Road and Bridge Maintenance Recommendations

Road And Bridge Maintenance

Table 1

Critical Works for 2000 - Regional Office

#	Activity Description	Rank	Units	Goals	Est Cost ($)
1	FSR Bridge & Major Culvert Inspections	A1	No.	500	95,000
2	FSR & Bridge Maintenance	A1	Kms		
3	Bridge Structure Repair (FSR)	A1	No.	3	10,000
4	FSR Permanent Deactivation	A1	Kms		
5	R/W Acquisitions-high priority	B1	No.	3	75,000
6	FSR Emergency Repairs	A1/B1	Region	N/A	150,000
7	FSR Upgrades (High Risk)	A1	Kms		
8	FSR Access Planning	A3	TSA		
	TOTALS:				330,000

Ranking

A - Legislated Requirement
B - Regional Priority
C - Protection of Investment

Priority

1 - Fibre Supply/FPC
2 - Revenue/ Financial Control
3 - Reviewing/ Revising ways of doing business

Table 2

Recommended 5 Year Investment Levels - Nelson Regional Office

		2000 Fiscal Year			2001	2002	2003	2004
#	Activity Description	Unit	Goal	Est Cost	Est Cost	Est Cost	Est Cost	Est Cost
1	FSR Bridge & Major Culvert Inspections	No.	500	95,000	60,000	60,000	95,000	60,000
2	FSR & Bridge Maintenance	Kms						
3	Bridge Structure Repair (FSR)	No.	3	10,000	10,000	10,000	10,000	10,000
4	FSR Permanent Deactivation	Kms						
5	R/W Acquisitions-high priority	No.	3	75,000	50,000	50,000	50,000	50,000
6	FSR Emergency Repairs	Region	N/A	250,000	250,000	250,000	250,000	250,000
7	FSR Upgrades (High Risk)	Kms						
8	FSR Access Planning	TSA						
		Totals:		430,000	370,000	370,000	405,000	370,000

CRANBROOK FOREST DISTRICT ROAD AND BRIDGE MAINTENANCE

Table 1.1A

Critical Works for 2000 - District Rollup:

#	Activity Description	Rank	Units	Goals	Est Cost ($)
1	FSR Bridge & Major Culvert Inspections	A1	No.		
2	FSR & Bridge Maintenance	A1	Kms	700	245,000
3	Bridge Structure Repair (FSR)	A1	No.	1	25,000
4	FSR Permanent Deactivation	A1	Kms	50	100,000
5	R/W Acquisitions-high priority	B1	No.		
6	FSR Emergency Repairs	A1/B1	Region		
7	FSR Upgrades (High Risk)	A1	Kms	20	120,000
8	FSR Access Planning	A3	TSA		
	TOTALS:				490,000

Ranking

A - Legislated Requirement
B - Regional Priority
C - Protection of Investment

Priority

1 - Fibre Supply/FPC
2 - Revenue/ Financial Control
3 - Reviewing/ Revising ways of doing business

Table 2

Recommended 5 Year Investment Levels - Cranbrook Forest District

		2000 Fiscal Year			2001	2002	2003	2004
#	Activity Description	Unit	Goal	Est Cost	Est Cost	Est Cost	Est Cost	Est Cost
1	FSR Bridge & Major Culvert Inspections	No.						
2	FSR & Bridge Maintenance	Kms	700	245,000	228,000	240,000	220,000	200,000
3	Bridge Structure Repair (FSR)	No.	1	25,000	25,000	30,000	30,000	35,000
4	FSR Permanent Deactivation	Kms	50	100,000	100,000	125,000	125,000	125,000
5	R/W Acquisitions-high priority	No.						
6	FSR Emergency Repairs	Region						
7	FSR Upgrades (High Risk)	Kms	20	120,000	120,000	120,000	120,000	120,000
8	FSR Access Planning	TSA						
	Totals			490,000	473,000	515,000	495,000	480,000

INVERMERE FOREST DISTRICT ROAD AND BRIDGE MAINTENANCE

Table 1.2A

Critical Works for 2000 - District Rollup:

#	Activity Description	Rank	Units	Goals	Est Cost ($)
1	FSR Bridge & Major Culvert Inspections	A1	No.		
2	FSR & Bridge Maintenance	A1	Kms	500	100,000
3	Bridge Structure Repair (FSR)	A1	No.	1	5,000
4	FSR Permanent Deactivation	A1	Kms	20	10,000
5	R/W Acquisitions-high priority	B1	No.		
6	FSR Emergency Repairs	A1/B1	Region		
7	FSR Upgrades (High Risk)	A1	Kms	5	10,000
8	FSR Access Planning	A3	TSA	2	5,000
	TOTALS:				130,000

Ranking

A - Legislated Requirement
B - Regional Priority
C - Protection of Investment

Priority

1 - Fibre Supply/FPC
2 - Revenue/ Financial Control
3 - Reviewing/ Revising ways of doing business

Table 2

Recommended 5 Year Investment Levels - Forest District Estimate

DISTRICT Invermere

		2000 Fiscal Year			2001	2002	2003	2004
#	Activity Description	Unit	Goal	Est Cost	Est Cost	Est Cost	Est Cost	Est Cost
1	FSR Bridge & Major Culvert Inspections	No.						
2	FSR & Bridge Maintenance	Kms	500	100,000	100,000	100,000	100,000	100,000
3	Bridge Structure Repair (FSR)	No.	1	5,000	5,000	5,000	5,000	5,000
4	FSR Permanent Deactivation	Kms	20	10,000	10,000	10,000	10,000	10,000
5	R/W Acquisitions-high priority	No.						
6	FSR Emergency Repairs	Region						
7	FSR Upgrades (High Risk)	Kms	5	10,000	10,000	10,000	10,000	10,000
8	FSR Access Planning	TSA	2	5,000	5,000	5,000	5,000	5,000
	Totals:			130,000	130,000	130,000	130,000	130,000

COLUMBIA FOREST DISTRICT ROAD AND BRIDGE MAINTENANCE

Table 1.3A

Critical Works for 2000 - District Rollup:

#	Activity Description	Rank	Units	Goals	Est Cost ($)
1	FSR Bridge & Major Culvert Inspections	A1	No.		
2	FSR & Bridge Maintenance	A1	Kms	538	190,000
3	Bridge Structure Repair (FSR)	A1	No.	0	0
4	FSR Permanent Deactivation	A1	Kms	2.1	12,000
5	R/W Acquisitions-high priority	B1	No.		
6	FSR Emergency Repairs	A1/B1	Region		
7	FSR Upgrades (High Risk)	A1	Kms	22	20,000
8	FSR Access Planning	A3	TSA	1	25,000
	TOTALS:				247,000

Ranking

A - Legislated Requirement
B - Regional Priority
C - Protection of Investment

Priority

1 - Fibre Supply/FPC
2 - Revenue/ Financial Control
3 - Reviewing/ Revising ways of doing business

Table 2

Recommended 5 Year Investment Levels - Forest District Estimate

DISTRICT____Columbia_____

		2000 Fiscal Year			2001	2002	2003	2004
#	Activity Description	Unit	Goal	Est Cost	Est Cost	Est Cost	Est Cost	Est Cost
1	FSR Bridge & Major Culvert Inspections	No.						
2	FSR & Bridge Maintenance	Kms	538	356,780	360,400	364,500	368,500	372,500
3	Bridge Structure Repair (FSR)	No.	0	0	30,000	30,000	0	0
4	FSR Permanent Deactivation	Kms	48.1	42,000	42,500	43,000	43,500	44,000
5	R/W Acquisitions-high priority	No.						
6	FSR Emergency Repairs	Region						
7	FSR Upgrades (High Risk)	Kms	27	30,000	30,300	31,000	31,500	32,000
8	FSR Access Planning	TSA	1	75,000	20,000	5,000	5,000	5,000
	Totals:			503,780	483,000	473,500	448,500	453,500

ARROW FOREST DISTRICT ROAD AND BRIDGE MAINTENANCE

Table 1.4A

Critical Works for 2000 - District Rollup:

#	Activity Description	Rank	Units	Goals	Est Cost ($)
1	FSR Bridge & Major Culvert Inspections	A1	No.		
2	FSR & Bridge Maintenance	A1	Kms	377	160,000
3	Bridge Structure Repair (FSR)	A1	No.	7	10,000
4	FSR Permanent Deactivation	A1	Kms	7	20,000
5	R/W Acquisitions-high priority	B1	No.		
6	FSR Emergency Repairs	A1/B1	Region		
7	FSR Upgrades (High Risk)	A1	Kms	1	16,000
8	FSR Access Planning	A3	TSA	1	25,000
	TOTALS:				231,000

Ranking

A - Legislated Requirement
B - Regional Priority
C - Protection of Investment

Priority

1 - Fibre Supply/FPC
2 - Revenue/ Financial Control
3 - Reviewing/ Revising ways of doing business

Table 2

Recommended 5 Year Investment Levels - Forest District Estimate

DISTRICT____Arrow_____

		2000 Fiscal Year			2001	2002	2003	2004
#	Activity Description	Unit	Goal	Est Cost	Est Cost	Est Cost	Est Cost	Est Cost
1	FSR Bridge & Major Culvert Inspections	No.						
2	FSR & Bridge Maintenance	Kms	377	160,000	160,000	160,000	160,000	160,000
3	Bridge Structure Repair (FSR)	No.	7	10,000	10,000	10,000	10,000	10,000
4	FSR Permanent Deactivation	Kms	22	45,000	45,000	50,000	55,000	55,000
5	R/W Acquisitions-high priority	No.						
6	FSR Emergency Repairs	Region						
7	FSR Upgrades (High Risk)	Kms	8	70,000	70,000	80,000	80,000	80,000
8	FSR Access Planning	TSA	1	75,000	75,000	75,000	75,000	75,000
	Totals:			360,000	360,000	375,000	380,000	380,000

BOUNDARY FOREST DISTRICT ROAD AND BRIDGE MAINTENANCE

Table 1.5A

Critical Works for 2000 - District Rollup:

#	Activity Description	Rank	Units	Goals	Est Cost ($)
1	FSR Bridge & Major Culvert Inspections	A1	No.		
2	FSR & Bridge Maintenance	A1	Kms	387.9	178,423
3	Bridge Structure Repair (FSR)	A1	No.	4	10,000
4	FSR Permanent Deactivation	A1	Kms	0.5	2,000
5	R/W Acquisitions-high priority	B1	No.		
6	FSR Emergency Repairs	A1/B1	Region		
7	FSR Upgrades (High Risk)	A1	Kms		0
8	FSR Access Planning	A3	TSA		
	TOTALS:				190,423

Ranking

A - Legislated Requirement
B - Regional Priority
C - Protection of Investment

Priority

1 - Fibre Supply/FPC
2 - Revenue/ Financial Control
3 - Reviewing/ Revising ways of doing business

Table 2

Recommended 5 Year Investment Levels - Forest District Estimate

DISTRICT___Boundary_____

		2000 Fiscal Year			2001	2002	2003	2004
#	Activity Description	Unit	Goal	Est Cost	Est Cost	Est Cost	Est Cost	Est Cost
1	FSR Bridge & Major Culvert Inspections	No.						
2	FSR & Bridge Maintenance	Kms	398.9	178,423	160,000	150,000	140,000	140,000
3	Bridge Structure Repair (FSR)	No.	4	10,000	10,000	10,000	5,000	5,000
4	FSR Permanent Deactivation	Kms	0.5	2,000	2,000	5,000	5,000	5,000
5	R/W Acquisitions-high priority	No.						
6	FSR Emergency Repairs	Region						
7	FSR Upgrades (High Risk)	Kms						
8	FSR Access Planning	TSA						
	Totals:			190,423	172,000	165,000	150,000	150,000

KOOTENAY LAKE FOREST DISTRICT ROAD AND BRIDGE MAINTENANCE

Table 1.6A

Critical Works for 2000 - District Rollup:

#	Activity Description	Rank	Units	Goals	Est Cost ($)
1	FSR Bridge & Major Culvert Inspections	A1	No.		
2	FSR & Bridge Maintenance	A1	Kms	944	200,000
3	Bridge Structure Repair (FSR)	A1	No.	2	20,000
4	FSR Permanent Deactivation	A1	Kms	21	40,000
5	R/W Acquisitions-high priority	B1	No.		
6	FSR Emergency Repairs	A1/B1	Region		
7	FSR Upgrades (High Risk)	A1	Kms	10	100,000
8	FSR Access Planning	A3	TSA	1	20,000
	TOTALS:				380,000

Ranking

A - Legislated Requirement
B - Regional Priority
C - Protection of Investment

Priority

1 - Fibre Supply/FPC
2 - Revenue/ Financial Control
3 - Reviewing/ Revising ways of doing business

Table 2

Recommended 5 Year Investment Levels - Kootenay Lake Forest District

		2000 Fiscal Year			2001	2002	2003	2004
#	Activity Description	Unit	Goal	Est Cost	Est Cost	Est Cost	Est Cost	Est Cost
1	FSR Bridge & Major Culvert Inspections	No.						
2	FSR & Bridge Maintenance	Kms	944	450,000	400,000	300,000	200,000	200,000
3	Bridge Structure Repair (FSR)	No.	6	60,000	60,000	60,000	30,000	20,000
4	FSR Permanent Deactivation	Kms	286	300,000	100,000	100,000	100,000	100,000
5	R/W Acquisitions-high priority	No.						
6	FSR Emergency Repairs	Region						
7	FSR Upgrades (High Risk)	Kms	30	200,000	100,000	100,000	100,000	100,000
8	FSR Access Planning	TSA	1	40,000	5,000	5,000	5,000	5,000
	Totals:			1,050,000	665,000	565,000	435,000	425,000

NELSON FOREST REGION ROAD AND BRIDGE MAINTENANCE

Table 1A

Critical Works for 2000 - Regional Rollup

#	Activity Description	Rank	Units	Goals	Est Cost ($)
1	FSR Bridge & Major Culvert Inspections	A1	No.	500	95,000
2	FSR & Bridge Maintenance	A1	Kms	3446.9	1,073,423
3	Bridge Structure Repair (FSR)	A1	No.	18	80,000
4	FSR Permanent Deactivation	A1	Kms	100.6	184,000
5	R/W Acquisitions-high priority	B1	No.	3	75,000
6	FSR Emergency Repairs	A1/B1	Region	N/A	150,000
7	FSR Upgrades (High Risk)	A1	Kms	58	266,000
8	FSR Access Planning	A3	TSA	5	75,000
	TOTALS:				2,008,423

Ranking

A - Legislated Requirement

B - Regional Priority

C - Protection of Investment

Priority

1 - Fibre Supply/FPC

2 - Revenue/ Financial Control

3 - Reviewing/ Revising ways of doing business

Table 2
Recommended 5 Year Investment Levels - Nelson Region Rollup

		2000 Fiscal Year			2001	2002	2003	2004
#	Activity Description	Unit	Goal	Est Cost	Est Cost	Est Cost	Est Cost	Est Cost
1	FSR Bridge & Major Culvert Inspections	No.	500	95,000				
2	FSR & Bridge Maintenance	Kms	3457.9	1,984,203				
3	Bridge Structure Repair (FSR)	No.	22	120,000				
4	FSR Permanent Deactivation	Kms	426.6	499,000				
5	R/W Acquisitions-high priority	No.	3	75,000				
6	FSR Emergency Repairs	Region	N/A	250,000				
7	FSR Upgrades (High Risk)	Kms	90	430,000				
8	FSR Access Planning	TSA	5	195,000				
	Totals:			3,648,203	2,663,000	2,603,500	2,453,500	2,398,500

Appendix 9 - Bridge Replacement recommendations

FOREST SERVICE ROAD BRIDGE REPLACEMENT -- FISCAL YEAR 2000/01
Nelson Forest Region

Structure Number	FSR Name	KM	CROSSING NAME	DISTRICT	Esimated Cost of Replacement	District Subtotals	Cumulative Regional Cost	Comments
N1-043	Bull-Van	12.8	Van	DCR	20,000	20,000	20,000	
N1-044	Bull-Van	15.0	Van	DCR	20,000	40,000	40,000	
N1-046	Bull-Van	20.1	Thuya	DCR	20,000	60,000	60,000	
N1-047	Bull-Van	27.5	Van	DCR	20,000	80,000	80,000	
?	Bull-Van	39.5	Unknown	DCR	20,000	100,000	100,000	
?	Bull-Van	48.3	Lightburn	DCR	20,000	120,000	120,000	
N1-162	St Mary's-West Fork	13.9	Dewar	DCR	40,000	160,000	160,000	
N1-163	St Mary's-West Fork	16.6	West Fork #1	DCR	30,000	190,000	190,000	
N1-141	St Mary's-Dewar	21.5	Unnamed	DCR	20,000	210,000	210,000	
N1-028	Bull-Quinn	39.0	Bull River	DCR	150,000	360,000	360,000	
N1-201	Perry	23.7	Perry	DCR	20,000	380,000	380,000	
N1-140	St Mary's	22.4	Outlet	DCR	25,000	405,000	405,000	
N1-141	St Mary's-Dewar	21.5	Unnamed	DCR	45,000	450,000	450,000	
N1-142	Moyie-Hellraoring	27.0	Hellroaring #1	DCR	20,000	470,000	470,000	
N1-099	Lodgepole	0.3	Elk River	DCR	55,000	525,000	525,000	
N1-193	Yahk	45.7	Gilnockie	DCR	60,000	585,000	585,000	
?	Linklater	?	?	DCR	45,000	630,000	630,000	
?	Bloom	?	?	DCR	45,000	675,000	675,000	
?	Caven	?	?	DCR	45,000	720,000	720,000	
N1-055	Elk	44.3	Elk River	DCR	35,000	755,000	755,000	
N1-165	St Mary's-White	17.9	Unnamed	DCR	30,000	785,000	785,000	
N1-166	St Mary's-White	24.1	Unnamed	DCR	70,000	855,000	855,000	

N1-144	St Mary's-Lapointe	34.5	St Mary's River	DCR	150,000	1,005,000	1,005,000	
N1-058	Flathead	12.8	Squaw Crk	DCR	55,000	1,060,000	1,060,000	
N1-195	St Mary's- Meachen	30.1	Unnamed	DCR	25,000	1,085,000	1,085,000	
N1-196	St Mary's- Meachen	39.0	White Boar	DCR	25,000	1,110,000	1,110,000	
N1-151	St Mary's- Meachen	46.5	Meachen #3	DCR	75,000	1,185,000	1,185,000	
N1-150	St Mary's- Meachen	41.8	Meachen #2	DCR	75,000	1,260,000	1,260,000	
N1-149	St Mary's- Meachen	44.0	Meachen #1	DCR	75,000	1,335,000	1,335,000	
N2-080	Kootenay Albert	70.4	Unnamed	DIN	20,000	20,000	1,355,000	
N2-134	White East Fork	60.1	East White River	DIN	25,000	45,000	1,380,000	
N2-157	White Rock	44.0	Elk Ck	DIN	90,000	135,000	1,470,000	
N3-033	Bush River	25.1	Clearwater Ck	DCO	10,000	10,000	1,480,000	
N3-045	Bush River Sullivan	73.1	Chatter Ck.	DCO	30,000	40,000	1,510,000	
N5-034	Incommapleux	11.5	Pool Ck.	DAR	27,000	27,000	1,537,000	
N5-131	Whatshan	27.7	Stevens Ck.	DAR	20,000	47,000	1,557,000	
N5-081	Robson Ridge	2.2	Merry Ck.	DAR	10,000	57,000	1,567,000	
N5-100	Wilson	11.6	Wilson Ck.	DAR	50,000	107,000	1,617,000	
N5-155	Halfway River	9.6	Unnamed	DAR	50,000	157,000	1,667,000	
N5-134	Whatshan	63.6	Mosquito Ck.	DAR	85,000	242,000	1,752,000	
N5-028	Goose Ck.	1.6	Goose Ck.	DAR	75,000	317,000	1,827,000	
N5-129	Whatshan	15.7	White Grouse Ck.	DAR	60,000	377,000	1,887,000	
N5-156	Halfway River	14.0	Unnamed	DAR	60,000	437,000	1,947,000	
N6-130	Burrell West	4.0	Bluejoiunt Ck.	DBO	60,000	60,000	2,007,000	
N6-099	Trapping Copper Kettle	11.8	Trapping Ck.	DBO	75,000	135,000	2,082,000	
N6-093	Trapping Ck.	0.7	West Kettle River	DBO	75,000	210,000	2,157,000	
N6-125	Granby Gable Paturages	18.0	Unnamed	DBO	60,000	270,000	2,217,000	
N7-185	Sanca Crk-South Fork	11.8	Unnamed Crk	DKL	32,000	32,000	2,249,000	materials aquired 99/2000
N7-186	Sanca Crk-South Fork	12.9	Unnamed Crk	DKL	22,000	54,000	2,271,000	materials aquired 99/2000

N7-187	Sanca Crk-South Fork	13.8	Unnamed Crk	DKL	20,000	74,000	2,291,000	materials aquired 99/2000
N7-105	Hawkins-Cold Creek	11.9	Cold Creek	DKL	22,000	96,000	2,313,000	materials aquired 99/2000
N7-106	Hawkins-Cold Creek	14.7	Cold Creek	DKL	22,000	118,000	2,335,000	materials aquired 99/2000
N7-034	Duncan Riiver	74.0	Fitch Creek	DKL	200,000	318,000	2,535,000	existing wbc in major fill
N7-009	Coffee Creek	1.7	Cofffee Creek	DKL	35,000	353,000	2,570,000	Abutment replacement
N7-054	Duncan-Howser Creek	43.2	Behrman Creek	DKL	80,000	433,000	2,650,000	
N7-125	Kid Creek	7.1	Spider Creek	DKL	70,000	503,000	2,720,000	
N7-092	Goat-Skelly	25.0	Kianuko Creek	DKL	82,000	585,000	2,802,000	
N7-005	Clearwater Creek	0.3	Apex Creek	DKL	60,000	645,000	2,862,000	
N7-205	Clearwater Creek	4.6	Qua Creek	DKL	55,000	700,000	2,917,000	
N7-206	Clearwater Creek	6.0	Clearwater Creek	DKL	70,000	770,000	2,987,000	
N7-171	Rover Creek	12.2	Rover Creek	DKL	60,000	830,000	3,047,000	
N7-???	Rover Creek	??	Midas Creek	DKL	25,000	855,000	3,072,000	failing WBC
N7-173	Rover-Midslope	12.2	Referendum Creek	DKL	50,000	905,000	3,122,000	
N7-201	Woodbury Creek	4.0	Unnamed Creek	DKL	20,000	925,000	3,142,000	
N7-202	Woodbury Creek	6.9	Woodbury Creek	DKL	75,000	1,000,000	3,217,000	
N7-162	Meadow-Mountain	16.0	N. Fork Cooper Creek	DKL	55,000	1,055,000	3,272,000	

Appendix 10 - Watershed Restoration (Non FRBC Priority) – Critical Project Recommendations

CRITICAL PROJECTS 2000/01

Watershed or Sub-basin Name	Status (N, O)	Proj No (If Any)	Primary Activity	Proponent	Cost Estimate ($'s)	Rank
GALTONS-Maguire, Red Canyon, Bowman, Willie Phillipps, Connor, Reserve, Miller, Rainbow Creeks	New		IWRP	MOF	80,000	2
Matthew Cr (Community W/S)	New		IWRP	MOF	25,000	1
Lost Ledge	New		IWRP/Prescription/ Deactivation	MOF	80,000	1
Akokoli	New		IWRP/Prescription/ Deactivation	MOF	100,000	2
Silverton Cr. Slide	New		Assessment/Works	MoF	40,000	
Renata/Bowman Cr.	New		Assessment/Works	MoF	40,000	
Bremmer Cr.	New		Assessment/Works	MoF	50,000	
Curtis Cr.	New		Assessment/Works	MoF	30,000	
Lost Cr.	New		Assessment/Works	MoF	60,000	
Sub Lot 20	New		Assessment/Works	MoF	60,000	
Salmo South	New		Assessment/Works	MoF	120,000	
Fish River	New		Assessment/Works	MoF	150,000	

Proposed 5 year plan for Recommended Investments in the Nelson Region:

RECOMMENDED 5 YEAR PLAN FOR INVESTMENTS

	2000 Fiscal Year			2001	2002	2003	2004
Activity	Unit	Est Q.	Est Cost	Est Cost	Est cost	Est Cost	Est Cost
Overview Assessment (IWAP)							
Erosion and Mass-Wasting Risk Assessment (EMRA)							
Access Management Map (AMM)							
Integrated Watershed Restoration Plan (IWRP)		11	125,000				
Detailed Assessments and Prescriptions (Upslope)		10	140,000				
Hillslope Rehabilitation/Restoration							
Road Deactivation and Road Rehabilitation		10	570,000	300,000			
Riparian Rehabilitation							
Landing Rehabilitation and Restoration							
Monitoring and Evaluation Upslope							
Totals:		31	835,000	300,000			

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